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No.

IN THE
SUPREME COURT OF THE UNITED STATES

October Term, 1983

RAILROAD DYNAMICS, INC.,
Petitioner

v.

A. STUCKI COMPANY,
Respondent

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

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QUESTIONS PRESENTED

1. Whether, in a case where the validity of a patent is challenged on the grounds of obviousness, the failure to submit to a jury specific interrogatories patterned on the factual inquiries set forth by this Court in *Graham v. John Deere Co.* and the approval of a general verdict is error? The decision of the Court of Appeals for the Federal Circuit on this point is in direct conflict with decisions of other Courts of Appeal as well as with other panels of the Federal Circuit itself.

2. Whether the Court of Appeals for the Federal Circuit committed error in holding that the burden of proof imposed upon the patent challenger is unchanged, where the Patent Office did not cite prior art as pertinent as that introduced at trial? The holding of the Federal Circuit to that effect is in direct conflict with the decisions of every other Court of Appeals and the United States Court of Claims that the presumption of patent validity under 35 U.S.C. Section 282 is weakened or destroyed in such circumstances.

3. Whether, given this Court's recognition that issues of patent validity are issues of law subject to full review on appeal, the Court of Appeals for the Federal Circuit erred in failing to make an independent review of the record to determine if substantial evidence supported the jury verdict and if the patent in issue complied with applicable legal and constitutional standards for patentability?

IDENTIFICATION OF AFFILIATE OF PETITIONER

Worthington Industries, Inc. is an affiliate of Petitioner in that it owns 50% of the stock of Petitioner.

PETITION FOR WRIT OF CERTIORARI

TABLE OF CONTENTS

	Page
QUESTIONS PRESENTED	i
IDENTIFICATION OF AFFILIATE OF PETITIONER	i
TABLE OF AUTHORITIES	iv
OPINIONS BELOW	2
JURISDICTION	2
CONSTITUTIONAL PROVISION, STATUTES AND RULES INVOLVED	2
STATEMENT OF THE CASE	3
FACTUAL BACKGROUND	5
REASONS FOR GRANTING THE WRIT	6
THE REFUSAL OF THE COURT OF APPEALS FOR THE FEDERAL CIRCUIT TO REQUIRE SUBMISSION TO THE JURY, IN THE FORM OF SPECIAL INTERROGATORIES, OF THE FACTUAL INQUIRIES SET FORTH BY THIS COURT IN *GRAHAM V. JOHN DEERE CO.* IS IN CONFLICT WITH OTHER DECISIONS OF THE FEDERAL CIRCUIT ITSELF AND OF OTHER COURTS OF APPEAL	8
THE HOLDING OF THE COURT OF APPEALS FOR THE FEDERAL CIRCUIT THAT THE STATUTORY PRESUMPTION OF PATENT VALIDITY, BASED ON THE DOCTRINE OF ADMINISTRATIVE CORRECTNESS, IS NEITHER WEAKENED NOR DESTROYED WHERE THE PATENT OFFICE DID NOT CITE PRIOR ART AS PERTINENT AS THAT	

TABLE OF CONTENTS *(Continued)*

Page

INTRODUCED AT TRIAL, IS BOTH ILLOGICAL AND IN DIRECT CONFLICT WITH THE DECISIONS OF EVERY OTHER COURT OF APPEALS IN THIS COUNTRY 16

The Presumption of Validity Cannot Apply to the Obviousness Issue When the Patent Office Did Not Cite Prior Art as Pertinent as a Litigant's Prior Art 17

The Presumption of Validity, Based on a Presumption of Administrative Correctness, Cannot Apply to an Issue Not Considered by the Patent Office 24

THE FAILURE OF THE COURT OF APPEALS TO INDEPENDENTLY REVIEW THE RECORD TO DETERMINE IF SUBSTANTIAL EVIDENCE SUPPORTS THE JURY VERDICT AND IF THE PATENT COMPLIES WITH CONSTITUTIONAL STANDARDS OF PATENTABILITY IS INCONSISTENT WITH ITS CONDUCT IN OTHER CASES AND WITH THIS COURT'S RECOGNITION THAT QUESTIONS RELATING TO VALIDITY ARE ISSUES OF LAW SUBJECT TO FULL REVIEW ON APPEAL 26

CONCLUSION 29

APPENDIX ..... A-i

APPENDIX TABLE OF CONTENTS ..... A-ii

TABLE OF AUTHORITIES

Cases *Page*

American Hoist & Derrick Co. v. Sowa & Sons, Inc., 725 F.2d 1350, 1356, 1361 (Fed. Cir. 1984) 8, 9, 10

American Seating Co. v. National Seating Co., 586 F.2d 611, 616 (6th Cir. 1978), *cert. denied* 441 U.S. 907 (1979) 19

Anderson's-Black Rock, Inc. v. Pavement Salvage Co., 396 U.S. 57, 61 (1969) 26, 27, 29

Baumstimler v. Rankin, 677 F.2d 1061, 1066, 1071-1072 (5th Cir. 1982) 14, 19, 23, 24

Black & Decker Mfg. Co. v. Ever-Ready Appliance Mfg. Co., 684 F.2d 546, 549 (8th Cir. 1982) . 19

Brush v. Condit, 132 U.S. 39, 48-49 (1889) 28

Christopher J. Foster, Inc. v. Newport News Shipbuilding & Dry Dock Co., 531 F.2d 1243, 1245 (4th Cir. 1975) 19

Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 1547 (Fed. Cir. 1983) 10, 11

Dickey-John Corp. v. International Tapetronics, 710 F.2d 329, 337 (7th Cir. 1983) 19

Envirotech Corp. v. Al George Incorporated, Appeal No. 83-1107 (Fed. Cir. March 19, 1984), Slip Op'n at 20, 21 ..... 11, 12

Futorian Mfg. Corp. v. Dual Mfg. & Engineering, Inc., 528 F.2d 941, 943 (1st Cir. 1976) .. 19, 23

General Electric Co. v. United States, 572 F.2d 745, 761 (Ct. Cl. 1978) 19

Graham v. John Deere Co., 383 U.S. 1, 17-18 (1966) i, 3, 6, 8, 9, 10, 12, 13, 14, 15, 16, 29

TABLE OF AUTHORITIES *(Continued)*

Cases	*Page*
Great A. & P. Tea Co. v. Supermarket Corp., 340 U.S. 147, 155 (1950)	26
Manufacturing Research Corp. v. Graybar Electric Company, Inc., 679 F.2d 1355, 1360-1361 (11th Cir. 1982)	19, 23
McGill Inc. v. John Zink Company, Appeal Nos. 83-1198/1217 (Fed. Cir. April 27, 1984), Slip Op'n at 20	10
NDM Corp. v. Hayes Products, Inc., 641 F.2d 1274, 1277 (9th Cir.), *cert. denied* 454 U.S. 1123 (1981)	19
Northern Engineering & Plastics Corp. v. Eddy, 652 F.2d 333, 338 (3d Cir. 1981), *cert. denied* 454 U.S. 1146 (1982)	19
Perkin-Elmer Corp. v. Computervision Corp., Appeal No. 83-1195 (Fed. Cir. April 6, 1984), Slip Op'n at 8, 13-22	12, 27
Plastic Container Corp. v. Continental Plastics of Oklahoma, Inc., 708 F.2d 1554, 1558 (10th Cir. 1983)	19
Radio Corp. of America v. Radio Engineering Laboratories, Inc., 293 U.S. 1, 7-8 (1934)	24
Roberts v. Sears, Roebuck & Co., 723 F.2d 1324, 1339-1340, 1342-1343 (7th Cir. 1983)	13, 14
Saginaw Products Corp. v. Eastern Airlines, Inc., 615 F.2d 1136, 1140 (6th Cir. 1980)	24
Sakraida v. Ag Pro, Inc., 425 U.S. 273, 280 (1976)	26, 29
In re Sivaramakrishnan, 673 F.2d 1383, 1385 (C.C.P.A. 1982)	28

TABLE OF AUTHORITIES *(Continued)*

Cases	*Page*
Sperberg v. Goodyear Tire & Rubber Co., 519 F.2d 708, 714-715 (6th Cir.), *cert. denied* 423 U.S. 987 (1975)	14, 15
Sutter Products Co. v. Pettibone Mulliken Corp., 428 F.2d 639, 646-647 (7th Cir. 1970)	28
Triax Co. v. Hartman Metal Fabricators, Inc., 479 F.2d 951, 954 (2nd Cir.), *cert. denied* 414 U.S. 113 (1973)	19
Turzillo v. P & Z Mergentime, 532 F.2d 1393, 1399 (D.C. Cir.), *cert. denied* 429 U.S. 897 (1976)	19
Union Carbide Corp. v. American Can Company, 724 F.2d 1567, 1573 (Fed. Cir. 1984)	26
White v. Jeffrey Mining Machinery Company, 723 F.2d 1553, 1558 (Fed. Cir. 1983)	11
United States Constitution	
Article 1, Section 8, Clause 8	2
Statutes	
28 U.S.C. Section 1254(1)	2
28 U.S.C. Section 1295(a)(1)	7
28 U.S.C. Section 1338(a)	3
28 U.S.C. Section 2201	3
28 U.S.C. Section 2202	3
35 U.S.C. Section 103	2, 3, 8, 18, 19
35 U.S.C. Section 112	2, 17, 25
35 U.S.C. Section 282	i, 2, 7, 16, 17, 26
Federal Rules of Civil Procedure	
Rule 49	2

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RAILROAD DYNAMICS, INC.,
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v.

A. STUCKI COMPANY,
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PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

Petitioner above named respectfully prays that a writ of certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Federal Circuit (hereinafter "CAFC"), entered in this action on January 25, 1984, rehearing and suggestion for rehearing *in banc* denied on February 14, 1984.

OPINIONS BELOW

The opinion below of the panel of the CAFC is reported at 727 F.2d 1506 and at 220 USPQ 929. A copy of this opinion is set forth in the Appendix at A-1.[1] The Order of the CAFC denying Petitioner's Petition for Rehearing and Suggestion for Rehearing *In Banc* is unreported and is set forth at A-77.

The opinion of the United States District Court for the Eastern District of Pennsylvania, denying Petitioner's post-trial motions, is reported at 218 USPQ 618 and is set forth at A-34.

JURISDICTION

The decision of the CAFC in this case was dated and entered January 25, 1984. (A-1). The formal Judgment was entered February 14, 1984. (A-76). An Order denying Petitioner's Petition for Rehearing and Suggestion for Rehearing *in Banc* was entered on February 14, 1984. (A-77). The jurisdiction of this Court is invoked under 28 U.S.C. Section 1254(1).

CONSTITUTIONAL PROVISION, STATUTES AND RULES INVOLVED

> The Congress shall have Power . . . To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries. **United States Constitution, Art. I, Section 8, cl. 8.**

This case also involves the following sections of the patent laws, **Title 35, United States Code, Sections 103, 112 and 282.** The texts of the pertinent portions of these sections are set forth at A-78 and A-79.

This case also involves **Rule 49 of the Federal Rules of Civil Procedure.** The text of this Rule is set forth at A-79-80.

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1. The pages of the Appendix will be cited as "A-1, A-2. . . ."

STATEMENT OF THE CASE

In March 1976, Petitioner, Railroad Dynamics, Inc. (hereinafter "Petitioner") brought a declaratory judgment action in the United States District Court for the Eastern District of Pennsylvania[2] seeking a declaration that the patent in suit, U.S. patent 3,837,292 (the " '292 patent") (PX-2[3] at E-1-11), issued to Donald Wiebe and assigned to A. Stucki Company ("Respondent"), was invalid and not infringed. Respondent counterclaimed for patent infringement.

Liability was tried before a jury in May and June of 1980. Petitioner admitted infringement if the patent was held valid, but challenged the validity of the patent on numerous grounds, including, *inter alia*, obviousness and best mode. During the course of the trial, the District Court refused to submit special interrogatories to the jury as requested by Petitioner (A-81-83), which interrogatories were directed to the factual inquiries underlying a determination of whether or not a patent is obvious under 35 U.S.C. Section 103, as mandated by this Court in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). Rather, the District Court, over Petitioner's objections, submitted to the jury with its instructions certain "Interrogatories to the Jury" which amounted to general verdict forms relating to the legal question of obviousness, *inter alia*. (A-26-28). The jury rendered a verdict on June 10, 1980 generally adverse to Petitioner,

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2. Jurisdiction was proper under 28 U.S.C. Sections 2201 and 2202 relating to declaratory judgments and under 28 U.S.C. Section 1338(a) concerning an action under Title 35 United States Code relating to patents.

3. "PX" designates the indicated Plaintiff's Exhibits introduced as evidence in the District Court. "E" designates the page of the separate exhibit appendix submitted herewith entitled "Appendix of Patents and Engineering Drawings To The Petition For A Writ Of Certiorari To The United States Court of Appeals For The Federal Circuit" containing patents and drawings which were introduced as documentary evidence in the District Court.

but determined that Petitioner's infringement was not willful. The damages phase of the litigation thereafter was tried to the Court in February 1981. The unreported decision awarding damages in the amount of $1,960,700 was rendered by the trial court on August 25, 1981.[4]

Both parties filed timely post-trial motions. Petitioner moved for judgment notwithstanding the verdict (hereinafter "JNOV") or, alternately, for a new trial, for revision of the damages award, and for a stay of execution. Respondent moved to alter or amend the judgment by increasing the amount of the damages award.

On March 28, 1983, the trial court entered a decision (hereinafter the "JNOV Memorandum"), reported at 218 USPQ 618 (A-34), denying all of the post-trial motions, except for the correction of a clerical error in the calculation of interest, resulting in a corrected damage award of $2,182,986. In its Memorandum opinion, the District Court made numerous findings of fact, particularly on the central issues of obviousness and best mode, despite the absence of any factual findings by the jury .

Petitioner thereupon renewed its motion for a stay of execution which was granted on April 29, 1983. Both parties appealed to the CAFC.

The CAFC rendered its decision on January 25, 1984 (judgment was entered February 14, 1984), affirming the jury verdict and holding that the district court's decisions on the parties' post-trial motions were correct and not an abuse of discretion. (A-1, A-34). The stay of execution was subsequently vacated, and Petitioner has been forced to seek refuge under the bankruptcy laws, since Petitioner could not post sufficient security pending disposition of this Petition and during subsequent proceedings in this Court. Petitioner thereupon filed this Petition.

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4. This decision is not reprinted in the Appendix, since it does not concern the issues raised in this Petition.

FACTUAL BACKGROUND

The '292 patent (E-1-11) relates to a combination of elements contained in the suspension system of a railway car, called a truck assembly. The invention is best understood by reference to Figure 8 of the '292 patent, which is colored for clarification as PX-77. (E-12).[5] All of the elements were old and well known prior art components of railway truck assemblies having the same general orientation as in the '292 patent.

The claims (E-10-11) provide for an improvement comprising a biasing spring arranged within a railway truck assembly to hold a hydraulic snubber spaced from either the bolster or the side frame (if the snubber and biasing spring assembly of Figure 8 were turned upside

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5. Figure 8 is a partial sectional view of a truck assembly in an unloaded railway car looking from the end of the car. The green side frame is carried on the wheeled axles, not shown. The blue bolster supports the body of the railway car, also not shown. The pink coil springs together form a "spring group" which supports the bolster ends within an opening formed in the side frames. An orange shock absorber, known as a "snubber" in the railway industry, replaces one of the coil springs in the truck assembly.

A red spring holds the snubber in a spaced position away from the side frame of the truck assembly when the railway car is unloaded. This red spring is called a "body spring" in the patent disclosure and a "biasing means" in the patent claims. When the railway car is unloaded, the red biasing spring holds the snubber in the spaced, inoperative condition shown in Figure 8 at the level of lines B-B. The inventor testified that the space between the end of the snubber's piston rod and the side frame is about ¾ inch when an unloaded railway car is supported by the truck assembly. When the railway car is loaded, however, or when the railway car rocks or bounces a sufficient amount, the pink coil springs and the red biasing spring are compressed so that the snubber contacts both the side frame and the bolster to absorb shocks as the railway car travels along the tracks. (T. 3.37-.38)*.

*"T." refers to the volume and page number of the Trial Transcripts in the District Court below, which are not included in the Appendix to this Petition. For example, T. 3.37-.38 refers to Volume 3, pages 37-38.

down) so that the snubber is "out of operative engagement" when the railway car is normally travelling in an unloaded condition, but is in contact with both the bolster and side frame and, therefore, is "in operative engagement" to absorb shocks when the railway car is loaded. For shorthand purposes, the invention claimed in the patent will be called an "unloaded-loaded arrangement" of a snubber in a railway truck assembly.

It is important to note that the evidence relating to the prior art, differences between the prior art and the claimed invention, and the meaning or significance of those differences, all relating to the issue of obviousness of the patent, were hotly contested by the parties. Moreover, the evidence relating to the issue of the failure to set forth the best mode of the invention in the patent was also disputed at trial.

REASONS FOR GRANTING THE WRIT

In a series of decisions both prior and subsequent to its determination of the case at bar, the CAFC has addressed the issue of whether a patent jury must be provided with special factual interrogatories patterned after the inquiries mandated by *Graham v. John Deere Co.*, *supra*.

In one of these cases, the CAFC reversed a jury verdict based upon the trial court's failure to submit such interrogatories to the jury; in other cases, including this case, the CAFC has expressed its strong preference for the employment of *Graham* interrogatories, but has nevertheless refused to overturn the verdicts on that ground. In none of its decisions has the CAFC provided any direction whatsoever to the lower courts or the patent bar as to the circumstances in which *Graham* interrogatories are required, or when they are unnecessary. The confusion which has arisen from these dramatically inconsistent decisions is substantial; the unfairness which has resulted from such rulings is great.

The fact that the CAFC itself has consistently refused to clarify its position on this issue, particularly given its exclusive appellate jurisdiction over patent cases[6], calls for review and resolution by this Court.

Similarly, this Petition presents important federal questions relating to the proper statutory presumption which is to be accorded to a patent under 35 U.S.C. Section 282. Eleven courts of appeals and the United States Court of Claims have held that, where the prior art presented by the patent challenger is more pertinent to the claimed invention than that considered by the Patent Office, the presumption of validity is weakened or overcome. Inexplicably, the CAFC has abandoned this well-established approach and has taken a position in direct conflict with the other circuit courts, by imposing upon the patent challenger, in circumstances where the doctrine of administrative correctness is inapplicable, the burden of proving invalidity by clear and convincing evidence. Unless this Court is willing to resolve this critical question and to reject the illogical, unworkable, and inequitable position taken by the CAFC, determinations of the Patent Office not based on the best evidence will be virtually irrefutable.

Finally, the refusal of the CAFC panel in this case to make an independent review of the legal issue of obviousness has brought into serious question the proper scope of review of patent jury decisions which is to be undertaken by the appellate court. As this Court has not reviewed a patent jury case since the enactment of the present patent statute in 1952, and as the CAFC has adopted inconsistent approaches in its review of patent jury decisions, clarification by this Court is essential.

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6. 28 U.S.C. Section 1295(a)(1), A-78.

THE REFUSAL OF THE COURT OF APPEALS FOR THE FEDERAL CIRCUIT TO REQUIRE SUBMISSION TO THE JURY, IN THE FORM OF SPECIAL INTERROGATORIES, OF THE FACTUAL INQUIRIES SET FORTH BY THIS COURT IN *GRAHAM V. JOHN DEERE CO.* IS IN CONFLICT WITH OTHER DECISIONS OF THE FEDERAL CIRCUIT ITSELF AND OF OTHER COURTS OF APPEAL

The serious conflict which exists within the CAFC itself and between the CAFC and other circuits regarding the need to submit to a patent jury, in the form of special interrogatories, the specific factual inquiries mandated *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966), in order to secure express and reviewable findings of fact[7], requires review and determination by this Court. The confusion which presently exists in this area is most markedly demonstrated by reference to the contradictory decisions of two panels of the CAFC, the first in *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350 (Fed. Cir. 1984), decided on January 12, 1984, *rehearing denied* February 15, 1984[8], and the sec-

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7. *Graham* set forth the facts to be considered in a determination of obviousness under 35 U.S.C. Section 103:

> Under Section 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at the issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented.

8. The panel in *American Hoist* comprised Judge Rich, who authored the opinion, Judge Kashiwa, and Senior Judge Cowen.

Counsel for Sowa & Sons, Inc. has advised the undersigned counsel for Petitioner that a Petition for Writ of Certiorari has been filed with this Court on May 9, 1984, No. 83-1827. Thus, this Court will have the opportunity to address the issue of the proper treatment of obviousness in patent jury trials, as well as the presumption of patent validity issue, by considering, at the same time, the positions of the parties in these two conflicting cases.

ond in the instant case decided only 13 days later, on January 25, 1984.[9]

In *American Hoist,* substantial evidence supported the positions of both parties. The jury rendered a decision against the patentee on the ground, *inter alia,* that the patent was invalid for obviousness. No findings of fact were made by the *American Hoist* jury. Its verdict consisted solely of responses to two legal issues relating to obviousness and fraud on the Patent Office. The trial court adopted the jury's determination of obviousness and, in its post-trial unpublished opinion, found facts in the record to support the jury's verdict. The CAFC panel reversed and remanded for a new trial, refusing to accept the presumption that the jury correctly determined the factual requirements of *Graham* in the absence of special interrogatories, and stated:

> We also agree with AmHoist that the district court *should have* submitted to the jury the factual inquiries underlying a Section 103 determination in the form of special interrogatories.
>
> * * *
>
> In performing its role with respect to Section 103, we assume that the district court recognized that it had no *express* findings of fact on which to base its legal conclusion. [Original emphasis]. *A district court may not solicit only a legal conclusion from the jury and then act as factfinder preliminary to expressing agreement with its legal determination. Id.* at 1361. [Emphasis Added.]

The *American Hoist* panel thus reversed a jury verdict on the ground that special interrogatories *must* be

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9. The panel in this case comprised Chief Judge Markey, the author of the majority opinion, in which Judge Friedman joined, and Senior Judge Nichols, who concurred in the result, but who had "serious qualms" about a single panel, rather than the twelve-judge court, setting forth broad guidelines for jury trials dealing with obviousness. (727 F.2d at 1523; A-31).

submitted to the jury on the controlling facts relating to obviousness.

> While we regret having to order a new trial before an already overburdened district county, a new trial is mandated, and this case is a good illustration of the difficulties inherent, generally, in the use of juries to resolve patent disputes and, specifically, *in allowing the use in such cases of general verdict forms unaccompanied by interrogatories on the controlling facts*. *Id.* at 1356. [Emphasis Added].

The instant case came to the CAFC in the very same posture as did *American Hoist*. Substantial evidence, particularly on the obviousness issue, was presented by the Petitioner. No express findings of fact were made by the jury, its verdict consisting solely of responses to legal issues. The trial court adopted the jury's determination of obviousness, and it too, in its post-trial opinion, found facts in the record allegedly supporting the jury's verdict. The CAFC panel in this case, however, either overlooked, misapprehended or ignored the precedent established in *American Hoist*, that the submission of the question of obviousness to the jury *must* be accompanied by detailed interrogatories designed to elicit responses to *at least* all of the factual inquiries mandated by *Graham*, approved the procedure followed by the trial court, and affirmed the verdict of the jury.

In the two other CAFC decisions reviewing jury trials prior to the decision in the case at bar and two CAFC decisions involving jury trial appeals subsequent to the case at bar, other CAFC panels strongly recommended submission of special interrogatories to the jury in patent infringement cases directed to the factual inquiries required by *Graham*.[10] In *Connell v. Sears, Roe-*

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10. Indicative of the CAFC's own uncertainty regarding the conflict which the CAFC itself has created, the Court, in *McGill Inc. v. John Zink Company*, Appeal Nos. 83-1198/1217 (Fed. Cir. April 27, 1984), Slip Op'n. at 20, declined to decide the issue of whether the trial court improperly failed to submit *Graham* factual inquiries relating to obviousness to the jury.

buck & Co., 722 F.2d 1542, 1547 (Fed. Cir. 1983), the CAFC's first review of a jury decision, the panel stated:

> Submission of the obviousness question to the jury *should therefore be accompanied by detailed special interrogatories* designed to elicit responses to at least all the factual inquiries enumerated in *Graham, supra*, and based on the presentations made in the particular trial. In so holding, we note the similar views expressed by other courts: *Control Components, Inc. v. Valtek, Inc.*, 609 F.2d 763, 767, 204 USPQ 785, 788 (5th Cir.), *cert. denied*, 449 U.S. 1022 (1980); *Velo-Bind Inc. v. Minnesota Mining & Mfg. Co.*, 647 F.2d 965, 971, 211 USPQ 926, 932 (9th Cir.), *cert. denied*, 454 U.S. 1093 (1981); *Manufacturing Research Corp. v. Graybar Electric Co.*, 679 F.2d 1355, 1365, n. 19, 215 USPQ 29, 36, n. 19 (11th Cir. 1982). [Emphasis added]

In *White v. Jeffrey Mining Machinery Company*, 723 F.2d 1553, 1558 (Fed. Cir. 1983), *rehearing denied* February 22, 1984, the CAFC determined that no issue of material fact was in dispute and reversed the jury decision and the trial court's refusal to overturn it by holding the involved patent invalid as obvious. Nevertheless, the *White* panel stated:

> . . . *interrogatories to juries should be directed to facts, not to questions of law such as obviousness* . . . which constitute the basis for instructions to the jury to guide it in reaching its conclusions of law. *Id.* at 1558n. 5. [Emphasis Added].

In *Envirotech Corp. v. Al George Incorporated*, Appeal No. 83-1107 (Fed. Cir. March 19, 1984), *rehearing denied* April 12, 1984, the CAFC stated:

> Submission of the obviousness question to the jury should preferably be accompanied by specified interrogatories designed to elicit responses to all the factual inquiries enumerated in *Graham*. Proper instructions based on those inquiries should always

> be given. . . . In the absence of such special findings and of a proper charge on which a conclusion of obviousness can be reviewed, and because the parties here are not yet in substantial agreement as to facts bearing on the obviousness issue, it is appropriate to remand the present case. *Id.* at Slip Op'n. at 20.

The admonition that, if a new jury trial occurs, "it would be preferable to submit at least detailed special interrogatories as to the facts enumerated in *Graham v. John Deere*," was again reiterated by the *Envirotech* panel in its Slip Opinion at 21n.11.

Further evidence of the extraordinary confusion generated by the decisions of the CAFC is its recent opinion in *Perkin-Elmer Corp. v. Computervision Corp.*, Appeal No. 83-1195 (Fed. Cir. April 6, 1984), *rehearing denied*, May 2, 1984. In that case, neither party requested that special verdicts or special interrogatories be submitted to the jury on the facts underlying the obviousness issue and neither party objected to the return of a general verdict as to whether or not certain claims of the involved patents were valid. Nevertheless, the CAFC stated:

> To facilitate review of a motion for JNOV and on appeal, it is preferred that a jury be provided with special interrogatories designed to reveal more clearly the findings it made. *Id.* at Slip Op'n. at 8.

The *Perkin-Elmer* panel also engaged in a careful and independent review of the evidence presented on the obviousness question, *id.* at 13-22, and was apparently influenced in its decision to affirm the jury verdict by its conclusion that "strong objective evidence" supported the nonobviousness conclusion. As is discussed *infra*, at 26-29, no such independent review of the evidence was performed by the CAFC panel in the matter *sub judice*.

Thus, in all of the CAFC's opinions relating to jury trials, the various panels at least strongly recommended, if not required, the submission of interrogatories to the

jury directed to the factual matters relating to obviousness. Yet guidelines as to when such interrogatories are required and when the failure to submit them to the jury is an abuse of the trial court's discretion have not been set forth by the CAFC.

It is clear from a review of the CAFC's decisions that the uniformity sought by the creation of the CAFC's exclusive jurisdiction has been undermined by that Court's own inconsistency. The CAFC's expression of a preference for the use of special interrogatories coupled with its refusal to provide any standard to trial courts on the question and the scattershot approach which it has employed in reviewing jury verdicts will continue to generate extreme confusion within the patent law and result in substantial inequities to litigants, as has in fact occurred in this case. Since the CAFC is unwilling to put its own house in order, as evidenced by its refusal to rehear the case at bar or the other cases where rehearing was sought on this very issue, this Court's intervention is required to put an end to the uncertainty which the decisions of the CAFC have created in the space of less than a year.

Furthermore, not only was the decision of the CAFC panel in the present case in conflict with prior and subsequent CAFC decisions on this point, but its ruling was also in conflict with prior decisions of other Circuit Courts of Appeal which have held that special interrogatories directed to the *Graham* factual inquiries should be submitted to the jury so that the judge can decide the legal question of obviousness based on the jury's findings of fact.

The Seventh Circuit, *in banc*, in *Roberts v. Sears, Roebuck & Co.*, 723 F.2d 1324, 1339-1340, 1342-1343 (7th Cir. 1983), reversed the jury verdict and held that special verdicts to the jury were required with respect to the subsidiary fact questions that composed the *Graham* inquiries, stating:

> . . . the trial court could not presume, nor may we, that the facts were found in favor of Roberts merely

> because the jury ultimately made the legal determination that his patent would not have been obvious. The trial court had no sufficient factual basis, presumed or otherwise, for ruling that the patent was "good and valid in law." *Id.* at 1342.

Beyond any doubt, if only a general verdict on obviousness is returned by a jury, factual determinations cannot thereafter be made by the trial court without improperly reversing the roles of judge and jury. Likewise, a reviewing court is powerless to determine intelligently whether or not a jury complied with the *Graham* requirements if the jury is not required to answer the specific *Graham* inquiries in returning its verdict. Just such a situation occurred in the case at bar.

In addition, Petitioner submits that it begs the question to argue that the jury must have found all the facts in Respondent's favor to reach its conclusion that the claimed subject matter is not obvious. To so reason would render every jury decision unassailable. The Court's admonition in *Baumstimler v. Rankin*, 677 F.2d 1061, 1066 (5th Cir. 1982), applies with substantial force here:

> The District Judge incorrectly allowed the jury to determine obviousness and validity, two issues which are clearly legal, not factual.
>
> * * *
>
> Special interrogatories . . . have especial value in a patent case tried to a jury. Their use is not only practical, facilitating appellate review and avoiding lengthy (as patent cases invariably are) retrial for even relatively minor errors in jury instructions, but accords with the inherent divisional lines between the roles of judge and jury, the boundaries of which are so easily transgressed in patent cases tried to juries. *Id.* at 1071-1072.

Likewise, in *Sperberg v. Goodyear Tire & Rubber Co.*, 519 F.2d 708, 714-715 (6th Cir.), *cert. denied* 423

U.S. 987 (1975), the Court held that the answers to two general interrogatories seeking the jury's opinion whether the patents were valid or invalid were "actually surplusage," but that submitting such questions to the jury was not improper, because the jury first made explicit factual findings. To the contrary in the present case, the trial court instructed the jury with respect to the *Graham* factual inquiries, but did not require the jury to make any findings or to answer any interrogatories concerning the factual inquiries.

Thus, this Petition raises issues relating to jury trials which are not merely academic. Petitioner's business is in jeopardy of liquidation, even though it has sought protection under the bankruptcy laws, as a result of a *presumption* that the jury understood the technology and correctly applied the facts it found to the legal issues involved in this case. Petitioner submits that a different result would have been reached and that the '292 patent would have been held invalid if the jury had been required to focus on the technology in response to specific *Graham* inquiries of the type Petitioner sought to have submitted to the jury. (A-81-83). At the very least, a review of the answers to such interrogatories would have enabled the trial court, the CAFC, and this Court to determine whether or not the jury understood the claimed invention and the prior art, and whether or not substantial evidence supported the facts reflected in the jury's answers to the interrogatories. By not remanding and requiring the trial court to submit the factual interrogatories to the jury, the CAFC in the present case rendered meaningful judicial review of the jury's verdict impossible.

In this case, the CAFC panel stated that "interrogatories seeking answers in writing to inquiries" per *Graham* "should be employed" and their use is "strongly recommended," (727 F.2d at 1516; A-16-17), and even provided in its Appendix B (727 F.2d at 1522-1523; A-29-30), sample interrogatories remarkably simi-

lar to those proposed at trial by Petitioner. (A-81-83). Inexplicably, however, the majority then stated:

> *Failure to submit detailed fact* interrogatories will not *in every case* result in the need for a new trial. Rule 49, Fed.R.Civ.P. (727 F.2d at 1517; A-17) [Emphasis added]

Obviously, this holding provides no guidelines whatsoever for trial courts or other CAFC panels, fails to comport with the CAFC and other courts' decisions, and severely hampers the creation of a unified body of law concerning the conduct of patent jury trials. As a result, the district courts and the bar are now left to cope, without assistance, with the CAFC's inconsistent rulings in all future patent jury trials.

Because of the CAFC's decisions in this and the other cases discussed above, a question of exceptional significance is yet unanswered: When is it necessary to submit to the jury interrogatories or special verdicts seeking answers in writing to the *Graham* inquiries, and when is it unnecessary to do so? The time is ripe, more than 30 years after the enactment of the 1952 Patent Act and almost 20 years since the *Graham* decision, for this Court to consider and decide this fundamental issue.

THE HOLDING OF THE FEDERAL CIRCUIT THAT THE STATUTORY PRESUMPTION OF PATENT VALIDITY, BASED ON THE DOCTRINE OF ADMINISTRATIVE CORRECTNESS, IS NEITHER WEAKENED NOR DESTROYED WHERE THE PATENT OFFICE DID NOT CITE PRIOR ART AS PERTINENT AS THAT INTRODUCED AT TRIAL, IS BOTH ILLOGICAL AND IN DIRECT CONFLICT WITH THE DECISIONS OF EVERY OTHER COURT OF APPEALS IN THIS COUNTRY.

The statutory presumption of patent validity is set forth in the first paragraph of 35 U.S.C. Section 282, which provides in pertinent part:

> The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

The statute *appears* clear on its face, but it is far from clear in application. The present litigation highlights its lack of clarity with respect to the following issues:

> (a) What is the effect of the presumption where a litigant relies upon prior art more pertinent than the prior art considered by the Patent Office?
>
> (b) What is the effect of the presumption where patent invalidity is asserted on the basis of an issue not considered by the Patent Office (here, whether the patentee disclosed in its patent the best mode of making and using the invention as required by 35 U.S.C. Section 112)?
>
> (c) What is the effect of the presumption on the burden of proof of the party challenging patent validity in the circumstances described in paragraphs (a) and (b)?
>
> (d) What is the effect of the presumption on the proper manner of instructing the jury concerning the matters set forth in paragraphs (a)-(c) above?

Petitioner has found no cases in which this Court has specifically addressed the above issues. Given the clear conflict which exists in this area between the decision of the CAFC below and the position taken by every other Court of Appeals, and particularly in light of the exclusive appellate jurisdiction in patent infringement cases which has been accorded the CAFC, a determination by this Court of these critical questions is essential.

The Presumption of Validity Cannot Apply to the Obviousness Issue When the Patent Office Did Not Cite Prior Art as Pertinent as a Litigant's Prior Art

Petitioner submitted below and submits here that where patent validity is challenged under 35 U.S.C. Sec-

tion 103 based on prior art not cited by the Patent Office or based on other matters not considered by the Patent Office, such as the failure to disclose the best mode, the presumption of validity is weakened or overcome. At the least, in these instances, the burden placed upon the party challenging the patent should be no greater than by a preponderance of the evidence. This position was rejected by both the CAFC and the District Court below. The CAFC held:

> This court has said that the standard of proof of facts necessary to support a legal conclusion of invalidity is "clear and convincing". *It does not change upon a showing of prior art not considered in the PTO or from defense to defense. Connell, supra.*
>
> * * *
>
> *The presumption of validity is neither weakened nor destroyed where art more pertinent than that considered by the PTO is introduced;* the offering party is simply more likely to carry the burden of proving facts clearly and convincingly under those circumstances. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, No. 83-820, slip op. at 5-6 (Fed. Cir. Nov. 23, 1983) [721 F.2d 1563 at 1566]. Similarly, Petitioner's argument that it was required to prove facts establishing its "failure to set forth the best mode" defense only by a preponderance, because that issue was not before the examiner, is without merit. 727 F.2d at 1516-1517; A-17-18. [Emphasis Added].

It is contended that the CAFC's holding is both illogical and in direct conflict with a prior decision of the United States Court of Claims, one of its predecessor courts, and with the decisions of every other Circuit Court of Appeals. Each of these courts has specifically held that, where more pertinent prior art is relied upon by the party challenging the patent than that considered by the Pat-

ent Office, the presumption of validity is at least weakened if not totally destroyed.[11]

In this case, Petitioner, in support of its assertion that the '292 patent is invalid on the grounds of obviousness under 35 U.S.C. Section 103, relied upon the following prior art, none of which was cited by the U.S. Patent Office in its review of the application which resulted in the '292 patent:

> (1) A truck assembly arrangement made and sold by the Holland Company and used by railroads several years prior to the effective filing date of the application for the '292 patent. The Holland arrangement was also illustrated and described in publicly distributed prior art engineering drawings as early as 1966 (PX-409 at E-13 (color-coded as PX-78 at E-14), and PX-417 at E-15). The Holland arrangement was an unloaded-loaded arrangement substantially as claimed in the '292 patent. (T. 2.116-.119; 3.42-.44; 3.117-.123; 4.103-.109).

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11. *E.g., Futorian Mfg. Corp. v. Dual Mfg. & Engineering, Inc.*, 528 F.2d 941, 943 (1st Cir. 1976); *Triax Co. v. Hartman Metal Fabricators, Inc.*, 479 F.2d 951, 954 (2nd Cir.), *cert. denied* 414 U.S. 113 (1973); *Northern Engineering & Plastics Corp. v. Eddy*, 652 F.2d 333, 338 (3d Cir. 1981), *cert. denied* 454 U.S. 1146 (1982); *Christopher J. Foster, Inc. v. Newport News Shipbuilding & Dry Dock Co.*, 531 F.2d 1243, 1245 (4th Cir. 1975); *Baumstimler v. Rankin*, 677 F.2d 1061, 1066 (5th Cir. 1982); *American Seating Co. v. National Seating Co.*, 586 F.2d 611, 616 (6th Cir. 1978), *cert. denied* 441 U.S. 907 (1979); *Dickey-John Corp. v. International Tapetronics*, 710 F.2d 329, 337 (7th Cir. 1983); *Black & Decker Mfg. Co. v. Ever-Ready Appliance Mfg. Co.*, 684 F.2d 546, 549 (8th Cir. 1982); *NDM Corp. v. Hayes Products, Inc.*, 641 F.2d 1274, 1277 (9th Cir.), *cert. denied* 454 U.S. 1123 (1981); *Plastic Container Corp. v. Continental Plastics of Oklahoma, Inc.*, 708 F.2d 1554, 1558 (10th Cir. 1983); *Manufacturing Research Corp. v. Graybar Electric Company, Inc.*, 679 F.2d 1355, 1360-1361 (11th Cir. 1982); *Turzillo v. P & Z Mergentime*, 532 F.2d 1393, 1399 (D.C. Cir.), *cert. denied* 429 U.S. 897 (1976); *General Electric Co. v. United States*, 572 F.2d 745, 761 (Ct. Cl. 1978).

(2) U.S. patent 1,983,088, issued December 4, 1934 to W. F. Kiesel, Jr. ("Kiesel") (PX-27 at E-16-19, Figure 2 being color-coded as PX-79 at E-20). Kiesel specifically illustrates and describes, in plain English, the unloaded-loaded arrangement claimed in the '292 patent (PX-27 at E-17, lines 19-27 and E-18, lines 5-17; T. 3.44-.51).

(3) U.S. patent 1,989,433, issued January 29, 1935 to T. H. Symington ("Symington") (PX-60 at E-21-25, Figure 2 being color-coded as PX-80 at E-26). Symington specifically illustrates and describes the unloaded-loaded arrangement (PX-60 at E-22, left column, lines 26-41 and E-23, right column, lines 1-13; T. 3.52-.58).

(4) Since the Holland arrangement and Symington patent disclose a snubber which operates on the principle of friction, rather than a hydraulic snubber, and since the internal operation of the Kiesel snubber is not specified, Petitioner also relies upon a one-page article published in the March 3, 1945 issue of *Railway Age* (PX-68, E-27). The *Railway Age* article discloses a Monroe hydraulic shock absorber for use in railway freight cars. Monroe's hydraulic snubber replaces a coil spring in a railway truck assembly and is located between the bolster and the side frame, the same position occupied by the '292 patent's hydraulic shock absorber which replaces a coil spring.

None of the prior art cited by the Patent Office discloses *any type of unloaded-loaded arrangement* of shock absorbers or snubbers in a railway truck assembly (T. 12.94).[12] Where snubbers are disclosed in the cited

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12. The Patent Office prior art references are Sproul U.S. patent 2,099,240 (PX-61 at E-28-31), Settles patent 2,573,165 (PX-69 at E-32-40), Williams patent 3,005,629 (PX-70 at E-41-46), Funkhouser patent 3,041,061 (PX-71 at E-47-51), Carter patent 3,145,055 (PX-72 at E-52-55), Blake patent 3,351,336 (E-56-63) and Seay patent 3,464,366 (PX-25 at E-64-74).

references, they are always in contact with and, therefore, in operative engagement with the bolster and side frame in both unloaded and loaded conditions.

The Holland arrangement and the Kiesel and Symington patents disclose the claimed unloaded-loaded arrangement. Under these circumstances, it is apparent that the U.S. Patent Office did not consider the best prior art.

Further, there is only one, insignificant difference between the claimed invention of the '292 patent and the Holland arrangement. Holland's unloaded-loaded arrangement uses a snubber which operates on the principle of friction, rather than hydraulics. However, Respondent itself admitted that this difference was immaterial, stating: "The novelty of a hydraulic snubber in a spring group is of no significance to the claimed Wiebe structure." (Stucki's Memorandum in Opposition to RDI's JNOV Motion, p. 32).[13] [14]

Over Petitioner's objection to submitting the ultimate issue of obviousness to the jury, the trial court stated in its jury instructions that, if the jury found that Petitioner's prior art was more pertinent than the Examiner's, the presumption of validity could be weakened or overcome. (T. 14.122-.123). However, the trial judge himself recognized that that instruction was unclear and not capable of being understood, and stated:

> You say that presumption of validity does not apply. I've used the third circuit case that you have cited

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13. Circuit Judge Nichols, in his concurring opinion below, recognized that this difference is meaningless:

> The *greatest difference* between the Holland and Stucki snubbers *was not patentably relevant, i.e.*, the Stucki device in suit was hydraulic and Holland's was not. 727 F.2d at 1524, A-33. [Emphasis Added].

14. It is uncontested that the level of ordinary skill in this art is that of a graduate engineer with several years of experience in the railway industry. (T. 2.48-.49; 3.138; 4.102-.103).

> here, the Phillips case, and I don't think it says that. It says it doesn't effect. It says it is weakened and I am telling them that. I am telling them what the third circuit says.
>
> The third circuit doesn't say it applies, just it is weakened. *What the devil that means, the jury will have to determine that.* (T. 13.89-.90). [Emphasis Added].

To further confuse the jury in its tasks, the trial court repeatedly stated in its jury instructions that Petitioner's burden of proof on all issues affecting patent validity was by the heavy burden of clear and convincing evidence. (T. 14.105-.117; 14.122-.123; 14.134-.137). These instructions resulted in the presentation of the following written jury interrogatories, to which Petitioner objected. (T. 14.148-.149):

> 1. Do you find that the plaintiff has proved by clear and convincing evidence that United States patent No. 3,837,292 is invalid on the ground of obviousness?
>
> * * *
>
> 6. Do you find that plaintiff has proved by clear and convincing evidence that United States patent No. 3,837,292 is invalid on the ground that the patent application failed to set forth the best mode contemplated by the inventor for carrying out his invention? (A-26-27).

These interrogatories and instructions set forth an improperly high burden of proof on Petitioner and therefore constituted reversible error.

As is clear on its face, Petitioner's prior art is more pertinent than the prior art cited by the Patent Office. Therefore, Petitioner submits that the trial court erred when it failed to instruct the jury and to provide a separate interrogatory, as Petitioner requested, that if the jury found Petitioner's prior art more pertinent than the

Patent Office's prior art, the burden of proof was lowered from "clear and convincing" to a preponderance of the evidence. Likewise, when the CAFC approved the trial court's actions, it adopted a position which is in direct conflict with every other Circuit Court of Appeals that has considered this issue.

Thus, for example in *Manufacturing Research Corporation v. Graybar Electric Company, Inc., supra,* 679 F.2d at 1360-1361, the Eleventh Circuit reversed a jury verdict where the district judge improperly instructed the jury to apply the clear and convincing evidence standard, rather than the preponderance of the evidence standard, when the alleged infringer introduced more pertinent art than that cited by the Patent Office. *Futorian Manufacturing Corp. v. Dual Manufacturing & Engineering, Inc., supra,* 528 F.2d at 943, involved a patent jury trial in which the trial court charged the jury that the alleged infringer had to prove invalidity only on the basis of a preponderance of the evidence standard, since the Patent Examiner did not consider the closest art to the claimed invention. The First Circuit Court of Appeals specifically approved this instruction.

In *Baumstimler v. Rankin, supra,* 677 F.2d at 1066, 1068, the Fifth Circuit reversed the trial court in circumstances similar to the case at bar. There, the trial court instructed the jury concerning the *Graham* factual inquiries, but left the ultimate determination of obviousness to the jury after instructing it that the party attacking the patent had to prove its case by clear and convincing evidence. The Court stated:

> Where the validity of a patent is challenged for failure to consider prior art, the bases for the presumption of validity, the acknowledged experience and expertise of the Patent Office personnel and the recognition that patent approval is a species of administrative determination supported by evidence, *Parker v. Motorola, Inc.,* 524 F.2d at 521, no longer exist *and thus the challenger of the validity of the patent*

> *need no longer bear the heavy burden of establishing invalidity either "beyond a reasonable doubt" or "by clear and convincing evidence". Id.* at 1066. [Emphasis Added].

And in *Saginaw Products Corp. v. Eastern Airlines, Inc.*, 615 F.2d 1136, 1140 (6th Cir. 1980), the Sixth Circuit similarly held that the burden of proof on an infringing party to establish its affirmative defenses is by a preponderance of the evidence.

No decisions of this Court have been located which address the appropriate burden of proof in such circumstances.[15] Therefore, for all of the reasons noted above, resolution of the conflict between the CAFC and the other circuits is necessary to dispel the confusion which presently exists and which, if not promptly resolved, will have a severe effect upon the conduct of all future patent validity trials.

The Presumption of Validity, Based on a Presumption of Administrative Correctness, Cannot Apply to an Issue Not Considered by the Patent Office

For the same reasons as are discussed above, the presumption of validity should also be reviewed by this

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15. This court, in *Radio Corp. of America v. Radio Engineering Laboratories, Inc.*, 293 U.S. 1, 7-8 (1934), held that the issuance of a patent is imbued with a presumption of validity and that a heavy burden of proof, greater than a preponderance of the evidence, must be met by a party challenging the patent. The parties in *Radio Corp.* were assignees of two inventors who made substantially the same invention at substantially the same time. An interference proceeding was conducted by the Patent Office to determine which of the two inventors was entitled to the patent. After the Patent Office's determination, the issue was again raised in several district courts and courts of appeal. No new prior art was relied upon. That case appears to be the most recent case in which this Court has referred to the presumption of validity of patents. The issue involved in the case at bar, the effect of the presumption of validity where the Patent Office did not cite prior art material to patentability, was not before this Court.

Court in the context of its effect on the burden of proof where the Patent Office did not consider the question of whether or not the patentee has disclosed in its application the best mode for making and using the claimed invention. 35 U.S.C. Section 112 provides, in pertinent part:

> The specification . . . *shall set forth the best mode contemplated by the inventor of carrying out his invention.* [Emphasis added].

Prior to filing the application for the patent, Respondent recognized there were problems with retaining its commercial shock absorber (the HS-6 snubber, illustrated in Figure 8 of the '292 patent) in the railway car's truck assembly. (T. 4.93-.94; 11.74-.75). To assure proper placement and retention of the snubber, Respondent interlocked the snubber to the bolster component of the railway car by applying lugs to the bolster and a pin to the snubber.

The inventor's testimony expressly confirmed that the lugs and pin structure was the best mode of installing the snubbers in the claimed unloaded-loaded arrangement and that such structure was known prior to filing the application for the '292 patent. (T. 11.69-.70). The inventor also testified that the lugs and pin structure should have been, but are not, disclosed in the application or in the patent. (T. 11.73).

Nothing in the patent file history in this case relates to the best mode issue. Indeed, the Patent Office never had cause to make and, therefore, never made any determination concerning this issue. The failure to disclose best mode can only come to light when the inventor and his patent are challenged. Thus, the doctrine of administrative correctness cannot apply in this context, thereby destroying any legal or logical basis for imposing such an onerous burden of proof upon the party asserting patent invalidity. The jury therefore should have been instructed that Petitioner's burden of proof on this issue was by a preponderance of the evidence.

This Court's consideration of the effect of the presumption of validity on prior art and issues not considered by the Patent Office is essential to provide proper guidance to the CAFC and trial courts, and the patent bar concerning the interpretation of 35 U.S.C. Section 282 and should also result in a reversal of the judgment in the instant proceeding.

THE FAILURE OF THE COURT OF APPEALS FOR THE FEDERAL CIRCUIT TO INDEPENDENTLY REVIEW THE RECORD TO DETERMINE IF SUBSTANTIAL EVIDENCE SUPPORTS THE JURY VERDICT AND IF THE PATENT COMPLIES WITH CONSTITUTIONAL STANDARDS OF PATENTABILITY IS INCONSISTENT WITH ITS CONDUCT IN OTHER CASES AND WITH THIS COURT'S RECOGNITION THAT QUESTIONS RELATING TO VALIDITY ARE ISSUES OF LAW SUBJECT TO FULL REVIEW ON APPEAL

This Court has made it clear that issues relating to patent validity, such as obviousness, are issues of law. *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 280 (1976); *Anderson's-Black Rock, Inc. v. Pavement Salvage Co.*, 396 U.S. 57, 61 (1969); *Graham v. John Deere Co., supra*, 383 U.S. at 17; *Great A.&P. Tea Co. v. Supermarket Corp.*, 340 U.S. 147, 155 (1950). Thus, while a determination of obviousness depends on the basic factual inquiries, the ultimate conclusion as to whether an invention would have been obvious at the time it was invented to one of ordinary skill in the art is a question of law.

Likewise, the CAFC itself, in decisions other than the case at bar, has treated obviousness as a matter of law subject to full review by an appellate court. In *Union Carbide Corp. v. American Can Company*, 724 F.2d 1567, 1573 (Fed. Cir. 1984), the Court stated:

> . . . this court reviews the issue of obviousness as one of law on which it *must* exercise independent judgment . . . . [Emphasis added]

In almost all *inter partes* cases other than the instant case, the CAFC has discussed in detail the scope and content of the prior art, the differences between the prior art and the claimed invention and the level of skill in the art. *E.g., Perkin-Elmer Corp. v. Computervision Corp., supra*, Slip Op'n. at 13-22. In this case, however, the CAFC abrogated its responsibility and made no independent determination as to whether the '292 patent was obvious or otherwise unpatentable.[16]

The first 23 typewritten pages of Chief Judge Markey's opinion for the panel generally are directed to the background, jury and obviousness issues. *Only two paragraphs* of that opinion addressed the substance of Petitioner's prior art not cited by the Patent Office and that discussion was directed only to that testimony relating to the actual prior public *use and sale* of the Holland arrangement (727 F.2d at 1513, right column, second paragraph, and 727 F.2d at 1514, left column, third paragraph; A-10, second paragraph, and A-11, third paragraph). However, even assuming *arguendo* the correctness of the determination of the majority of the panel below and of Judge Nichols that substantial evidence existed from which a reasonable jury could conclude that, as sold and used, "the Holland arrangement did not involve the spacing asserted by RDI" (727 F.2d at 1514; A-11) and that the "Holland device did not work in the manner asserted by RDI" (727 F.2d at 1524; A-33),[17] the use and sale of the Holland device represented only one aspect of the prior art Petitioner relied upon in this litigation.

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16. In failing to make such an independent review of the obviousness question, the issue of whether the patent could withstand constitutional scrutiny was never decided by the CAFC, as was required by this Court in *Anderson's-Black Rock, Inc. v. Pavement Salvage Co., supra*, 396 U.S. at 61.

17. The following portion of Judge Nichols' concurring opinion below nicely summarizes the obviousness issue raised on appeal:

> The *greatest difference* between the Holland and Stucki snubbers *was not patentably relevant, i.e.*, the Stucki device in suit was hydraulic and Holland's was not. 727 F.2d at 1524, A-33. [Emphasis Added].

The panel completely ignored Petitioner's documentary evidence, namely, the Holland arrangement prior art publicly distributed drawings and the Kiesel or Symington patents, all of which clearly disclose the claimed unloaded-loaded arrangement (see *supra*, at 19-20.) Independent review by the panel of these documentary exhibits would have disclosed what is plainly set forth in them: the unloaded-loaded arrangement claimed in the '292 patent. Further, assuming that the evidence, viewed in the light most favorable to Respondent, established that, in practice, the Holland, Kiesel, and Symington *snubbers* would not work in the field as disclosed in the published drawings and prior patents, these drawings and patent references, not cited by the Examiner, still disclose to one of ordinary skill in the art the unloaded-loaded arrangement claimed in the '292 patent.[18]

Thus, the panel below overlooked or misapprehended the essential fact that not only the Holland drawings but also the Kiesel and Symington patents disclose a snubber that was inoperative when the car was empty and operative only when the car was loaded as claimed in the '292 patent. There is no substantial evidence to refute this.

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18. As a matter of law, it is irrelevant if prior art devices work imperfectly or are not commercially successful. So long as the prior art teaches what is claimed in the patent in suit, it is an effective reference. *Brush v. Condit*, 132 U.S. 39, 48-49 (1889); *In re Sivaramakrishnan*, 673 F.2d 1383, 1385 (C.C.P.A. 1982). In *Sutter Products Co. v. Pettibone Mulliken Corp.*, 428 F.2d 639, 646-647 (7th Cir. 1970), the Court stated:

> Inefficiency, even to the point of practical ineffectiveness, does not necessarily invalidate an invention as prior art in all its aspects. *Dalin v. Watson, supra* [92 U.S.App.D.C. 270], 204 F.2d [730] at p. 732. So long as it embodies the same construction and principle as the alleged invention, a structure is effective as prior art even though the construction of the machine is crude, or the machine is imperfect in operation. *Zephyr American Corporation v. Bates Mfg. Co.*, 128 F.2d 380, 385 (3d Cir. 1942).

Such documentary prior art independently and conclusively proves the claimed invention obvious, thereby rendering the '292 patent invalid. Had the CAFC panel undertaken to review the evidence on the issue, it would have been compelled to reach just such a conclusion.

This Court has not shied away from determining whether patents before it have satisfied applicable consitutional and statutory standards. In *Graham*, *Anderson's-Black Rock*, and *Sakraida*, this Court found that the involved patents did not meet such standards, reversed the circuit court decisions, and held the patents at issue invalid. Petitioner submits that a like result not only is warranted but is mandated in the present case.

CONCLUSION

For all of the foregoing reasons, a writ of certiorari should issue to the Court of Appeals for the Federal Circuit so that this Honorable Court may resolve the direct conflicts which exist within the Federal Circuit and between the Federal Circuit and the other Courts of Appeals, and may correct the decision below.

Respectfully submitted,

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APPENDIX TO PETITION FOR WRIT OF CERTIORARI

APPENDIX

TABLE OF CONTENTS

	Page
Decision of the United States Court of Appeals for the Federal Circuit, dated Janaury 25, 1984	A-1
Memorandum and Order of the United States District Court for the Eastern District of Pennsylvania, dated March 25, 1983	A-34
Judgment from the United States Court of Appeals for the Federal Circuit, dated January 25, 1984	A-76
Order from the United States Court of Appeals for the Federal Circuit, dated February 14, 1984	A-77
28 U.S.C. 1295(a)(1)	A-78
28 U.S.C. 1338(a)	A-78
35 U.S.C. 103	A-78
35 U.S.C. 112	A-79
35 U.S.C. 282	A-79
Federal Rules of Civil Procedure, Rule 49	A-79
Plaintiff's Revised Proposed Special Verdict questions	A-81

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Appeal Nos. 83-951/961

RAILROAD DYNAMICS, INC.,
Appellant/Cross-Appellee,
v.
A. STUCKI COMPANY,
Appellee/Cross-Appellant.

Decided: January 25, 1984

Before MARKEY, *Chief Judge,* FRIEDMAN, *Circuit Judge,* and NICHOLS, *Senior Circuit Judge.*

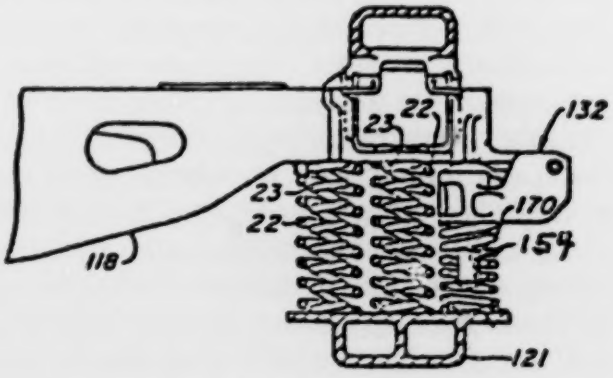
MARKEY, *Chief Judge.*

Appeal from a judgment of the District Court for the Eastern District of Pennsylvania denying motions for judgment notwithstanding the verdict (JNOV) and for a new trial. U.S. Patent No. 3,837,292 ('292 patent), assigned to A. Stucki Co. (Stucki), was held valid and found infringed. Damages were awarded in the amount of $2,182,986. We *affirm.*

Background

The Invention

Figure 8 of the '292 patent is illustrative:



A railroad freight car (not shown) has beneath it four side frames 121, each carrying two of the car's eight wheels (not shown). Springs 22, 23 are grouped between the wheels in each side frame and act as shock absorbers. Each end of the car rests on a bolster 118 extending between the side frames at each side of the car, each end of the bolster resting on the springs.

In operation, freight cars tend to rock from side to side, a phenomenon known in the industry as "rock and roll". Severe rocking and rolling can cause derailment.

The '292 patent discloses as a solution to rock and roll the replacement of one of the springs with a hydraulic shock asborber assembly (snubber) 132. A spring 170 holds the snubber normal to the bolster and biases the hydraulic piston rod 154 out of contact with frame 121 when the car is lightly loaded. The snubber operates only when the car is loaded or bounces sufficiently to compress the springs to the point at which the hydraulic rod 154 of the snubber contacts the frame (or, when the snubber is reversed in position, the point at which the rod contacts the bolster).

Claim 1 is representative:

> 1. In a dampened railway truck assembly selectively operable in loaded and unloaded conditions and having a hydraulic snubber apparatus interposed in a spring group intermediate a bolster member and a side frame member, the improvement comprising: means interposed between said snubber apparatus and one of said members to bias said snubber apparatus out of operative engagement with said one of said members when said truck assembly is normally operating in an unloaded condition; and said means and said snubber apparatus being cooperable to initiate hydraulic snubbing by said snubber apparatus substantially only when said railway truck assembly is normally operating in a loaded condition, the bias of said means is partially

overcome and said snubber apparatus is in operative engagement with both of said members.

Procedural History

Railroad Dynamics, Inc. (RDI) brought a declaratory judgment action against Stucki in 1975, seeking a declaration of patent invalidity. Stucki counterclaimed for infringement.

RDI admitted infringement and the liability issue was tried to a jury for three weeks (May 19, 1980 to June 10, 1980). The trial judge gave detailed instructions to the jury, covering over 51 pages of the record. The jury answered in writing ten inquiries labeled "interrogatories", each of its answers favoring Stucki. The parties agree that the jury's answers amounted to a general verdict in favor of Stucki.

The damages issue was tried to the court from February 9, 1981 to February 20, 1981. The court in an unreported Memorandum established a reasonable royalty of $35.00 per carset (four snubbers) plus 6% interest. On August 25, 1981, the court issued an Order that judgment be entered in favor of Stucki for $1,960,700. Judgment was entered on August 26.

RDI moved for JNOV or for a new trial and objected to inclusion of royalties on certain carsets in the award. Stucki moved to alter or amend judgment by increasing the amount of the award.

Judge Broderick, in a careful and exhaustive Memorandum published at ____ F.Supp. ____, 218 USPQ 618, reviewed all the evidence, and denied the post trial motions of RDI and Stucki (except for correction of a clerical error in the calculation of interest). The district court entered an Order on March 25, 1983 that the August 26, 1981 judgment be corrected, *nunc pro tunc*, in favor of Stucki for $2,182,986. Final judgment was accordingly

entered March 28,[1] 1983, or some seven years after suit was filed.

Issues

(A) Whether the judgment entered on the jury verdict is supported in the record.

(B) Whether the district court erred in: (1) submitting a legal issue to the jury; (2) submitting interrogatories to the jury; (3) instructing the jury; (4) failing to declare invalidity for lack of oath or declaration.

(C) Whether the district court erred in determining the amount of damages.

OPINION

Standard of Review — In General[2]

It is judgments that are appealed. Because a final judgment issues in favor of the movant, it has been said that "an order granting a motion for JNOV is appealable". Orders denying a motion for JNOV and granting or denying a motion for new trial do not generally result in judgments and are not themselves appealable. 5A Moore's Federal Practice ¶56.16 (2d ed. 1983). In those latter instances, the only appealable judgment is that entered on the jury's verdict.

Where no post-trial motions of the type discussed here were filed, and the appeal is directly from the judg-

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1. Damages were awarded on this basis:

	RDI Carsets Shipped	Royalty ($35.00/ Carset)	Royalty with Compound Interest at 6%
12/1/74-4/30/75	2,406.75	84,236	124,400
5/1/75-4/30/76	5,043.00	176,505	245,977
5/1/76-4/30/77	6,805.00	238,175	312,105
5/1/77-4/30/78	7,145.00	250,075	309,493
5/1/78-4/30/79	9,488.00	332,080	386,807
5/1/79-4/30/80	13,296.00	465,360	513,013
5/1/80-2/09/81	7,999.75	279,991	291,191
TOTAL	52,183.50	1,826,422	2,182,986

2. This section is distasteful dicta deemed desirable only in view of the growing incidence of jury trials in patent cases and the indication of need in the briefs here and in other appeals

ment entered on the jury's verdict, review for sufficiency of evidence is extremely limited or non-existent, prejudicial legal error must be shown to have occurred in the conduct of the trial, and the action of an appellate court is limited to affirmance or remand for new trial. *See Lenard v. Argento*, 699 F.2d 874, 888 (7th Cir. 1983); *Scientific Holding Co. v. Plessey, Inc.*, 510 F.2d 15, 28 (2nd Cir. 1974). It thus behooves counsel to file non-frivolous motions for directed verdict, for JNOV, and for new trial.

Similarly, where there has been no motion for JNOV under Rule 50(b) Fed. R. Civ. P., and nothing of record that may be treated as such a motion, an appellate court cannot reverse or order judgment for appellant. *Cone v. West Virginia Pulp & Paper Co.*, 330 U.S. 212 (1947); *Globe Liquor Co. v. San Roman*, 332 U.S. 571 (1947); *Johnson v. New York, New Haven & Hartford Railroad Co.*, 344 U.S. 48 (1952). Moore's, *supra*, ¶50.12. An appeal may not be treated as a substitute for a motion for JNOV that was not made to the district court.

Though it has been said that a district court presented with a motion for JNOV must determine whether there was "substantial evidence to support the verdict", *See Connell v. Sears, Roebuck & Co.*, Nos. 83-841/842, (Fed. Cir. Nov. 23, 1983), the quoted phrase must not be taken as applicable in the same manner to all issues encompassed in the verdict or in a manner that would disregard the proper placement of the burden of proof. For example, the verdict may be for the patent owner, necessarily implying a conclusion that the patent is valid. The quoted phrase must not be taken in that case as meaning that the district court, in considering a motion for JNOV attacking validity, determines only whether the patent owner had introduced sufficiently substantial evidence to support that conclusion. That approach would, contrary to the statute, 35 U.S.C. §282, shift to the patent owner the burden of proving facts establishing validity.

Patent owners are never in law required to prove facts establishing validity, though they may when necessary be well advised to prove such facts in rebuttal of a patent challenger's case. When they do, a verdict of validity may be sustained on the failure of the challenger to meet its burden in light of the rebuttal evidence.

The burden placed on patent challengers by §282 is not undue. There are many grounds for challenging a patent. Challengers often press them all; and challengers win if they establish only one.

When a jury verdict of validity is tested by a motion for JNOV, therefore, the district court must determine whether the patent challenger's evidence met the burden imposed by §282. If that evidence be such as to have so withstood the patent owner's rebuttal evidence that reasonable jurors could not have concluded that the patent is valid, the motion should be granted. If the patent challenger's evidence fails that test, the motion should be denied.

When the verdict connotes invalidity, a properly instructed jury has necessarily determined that the patent challenger's evidence met the burden imposed by §282. A district court presented with the patent owner's motion for JNOV would apply the same test, i.e., whether reasonable jurors viewing the challenger's evidence could or could not have reached the conclusion that the patent is invalid.

Respecting infringement, the shoe is on the other foot, for there the burden is on the patent owner. Whether the verdict be for the patent owner or alleged infringer, a motion for JNOV attacking the infringement finding must be tested on whether the patent owner's evidence was such that reasonable jurors could or could not have determined that the claims were or were not infringed.

Standard of Review — This Case

The present denial of a motion for JNOV, though not appealable, is reviewable in connection with the appeal from the judgment entered on the verdict. When a motion for JNOV has been granted, the judgment on review is that entered by the trial judge, not the judgment that would have been entered on the verdict. Whether the motion was denied or granted, appellate review follows the decisional path, discussed *infra*, trod by the trial court. Moore's, *supra*, ¶50.07.

Similarly, though the denial or grant of a motion for new trial is not appealable, a denial of that motion is reviewable in connection with the appeal from the judgment entered on the verdict. Review is conducted, however, on an abuse of discretion standard. Moore's, *supra*, ¶59.15[3].

Where, as here, a motion for JNOV was denied, appellee may assert grounds that would entitle him to a new trial if denial of the motion for JNOV is held to have been in error. Rule 50(d), Fed. R. Civ. P. Stucki's assertions in support of the verdict and the denial of RDI's motions may be considered an assertion of such grounds here.

Where, as here also, motions for JNOV and for new trial have been denied, an appellate court may affirm the denial of the former, reverse the denial of the latter, and order a new trial. Moore's, *supra*, ¶50.15.

Though the foregoing rules and decisions govern the standards of review and actions open to an appellate court on appeals from judgments entered under various circumstances following a jury trial, the parties here have essentially ignored those rules and decisions. RDI does not directly assert that the jury's verdict resulted from prejudicial legal error. It does argue error in the denial of its motions (directly respecting its motion for JNOV; indirectly respecting its motion for new trial, i.e., by asserting error in the conduct of the trial).

RDI disregards the trial court's Memorandum. Except for a mention of "the patent monopoly" and a one sentence reference to *Roberts v. Sears, Roebuck and Company*, 697 F.2d 796 (7th Cir.) *vacated and remanded en banc*, No. 82-1886 (7th Cir. Dec. 21, 1983), that Memorandum reflects a thorough, unchallengeable statement of the factual and legal basis for denial of RDI's motions, as well as a correct application of the law and procedure governing jury trials in patent cases and the determination of damages in this case.

One who appeals from a judgment entered on a verdict absent post trial motions, from a judgment entered on the grant of a motion for JNOV, from a judgment entered on a verdict after denial of a motion for JNOV, or from a judgment entered on a verdict after denial of a motion for new trial, if he would not waste the court's time and his client's money, must comply with the applicable rules. If the first, appellant must come prepared to show that prejudicial legal error occurred at trial. If the second or third, appellant must come prepared to show that the jury's factual findings were not supported by substantial evidence, or if they were, that the jury's legal conclusion was not supported by those facts. If the last, appellant must come prepared to show an abuse of discretion in denying the motion for new trial.

Though the present appeal is from the judgment entered on the jury's verdict, the denial of RDI's motion for JNOV is, as above indicated, reviewable. Because review of the latter encompasses the former, they may be discussed together. In light of the record and the presentation of the parties, we consider together under (A) the jury's verdict and the denial of the motion for JNOV, we consider under (B) the denial of RDI's motion for new trial in light of its attacks on the conduct of the trial in relation to the jury's verdict, and we consider under (C) the judgment of the court entered on the damages proceeding.

(A) JNOV — The Jury's Verdict

Upon presentation of a motion for JNOV following a jury verdict on patent validity, the district court must first consider the fact evidence and draw reasonable inferences in a light most favorable to the non-moving party, without determining credibility or substituting its choice for that of the jury when conflicting elements appear in the substantial probative fact evidence. The moving party is entitled to JNOV when the court is convinced: (1) that reasonable persons could not in light of that evidence have found the facts necessary to support the jury's verdict; *or* (2) that the facts properly found cannot in law support that verdict. If, on the other hand, the court is convinced that reasonable persons could have found in light of that evidence all the facts necessary to support the jury's verdict, denial of the motion for JNOV is required. *Connell, supra,* slip op. at 5.

Thus the trial judge engages in a two step process when presented a motion for JNOV: (1) determine what facts are supported by substantial evidence; and (2) determine whether those facts support the legal conclusion necessarily drawn by the jury enroute to its verdict.

In conducting the first step, the trial judge avoids invasion of the jury's province by respecting its right to select reasonably from the probative evidence and to determine credibility. In conducting the second step, the judge avoids a miscarriage of justice by reaching, when the rules render it necessary, a legal conclusion different from that of the jury. Because of the respect due the constitutional right to a jury trial, the rules relating to the judge's role necessarily limit that judicial interposition to instances in which the underlying facts found by the jury (in writing or as implied from its return of a general verdict) are either not themselves supported by substantial evidence or, if so supported, cannot in turn support the jury's legal conclusion.

Thus the judge who was present at trial is best positioned, when presented a motion for JNOV, to review in

detail the evidence and events at trial. In the present case, our decisional approach is aided by the trial judge's review and his Memorandum setting forth his reasons for denying the motion for JNOV.

Our review of Judge Broderick's thorough Memorandum coupled with consideration of the parties' presentations on appeal, leads inescapably to the conclusion that RDI's motion for JNOV was properly denied.

The thrust of RDI's arguments here center around a piece of non-patented prior art known as the Holland arrangement. In that arrangement a stiff spiral or "volute" is placed between the bolster and the frame. The dispute at trial was whether the spiral was, unlike the snubber of the claimed inventions, in contact with the bolster and frame. RDI says the Holland arrangement is spaced like the claimed snubber and is therefore more pertinent than the art considered by the Patent and Trademark Office (PTO), and that it would have rendered obvious the inventions claimed in the '292 patent. On that basis, RDI argues that there is evidence of record which would support a grant of its motion for JNOV.

RDI says that because "the issue of obviousness is a legal conclusion, albeit based on evidence in the form of facts", that issue is "fully reviewable by this court *de novo*". The assertion is at best confusing. Every legal conclusion must be based on facts established by evidence. "*De novo*" review means a totally new fact-finding effort.

We do not sit as fact-finders. Given the facts supported by substantial evidence, we are certainly at liberty, as is the trial court, to say that the jury committed an error of law in reaching its conclusion on obviousness when those facts will not in law support the conclusion. But that is quite another thing from what is desired by RDI.

As appellants are wont to do, RDI seeks a second trial, albeit at this level. In arguing for "*de novo*" review of the obviousness "issue", RDI would render a trial of

that question unnecessary, for all that would be necessary under RDI's proposal is that the parties mail us the patent and the prior art and ask whether we think the claimed invention would have been obvious or unobvious.

Thus RDI misconceives our role as an appellate court. In the concert hall of justice, each musician has a part to play. When one on whim plays not his own but another's part, discord is certain. Moreover, our parts are played under well defined rules. When a player elects to play under special rules of a personal design, though his playing should satisfy so sweetly the justice of his inner ear, the concert itself cannot succeed. The roles and rules of trial and appellate courts are distinct and distinctly designed for harmony. Hence, we reject RDI's invitation to consider the Holland arrangement evidence *de novo* and to reach our own conclusion on obviousness in a vacuum, as though the many events before this appeal never occurred.

That there may have been trial evidence favorable to both sides, i.e., to RDI and to Stucki, is simply irrelevant. There usually is. At oral argument, RDI responded to this court's indication that it did not sit to review evidence *de novo* with an assertion that there is *no* evidence favorable to Stucki. That assertion is unfounded. The ample evidence favorable to Stucki is discussed by Judge Broderick at ____ F.Supp. ____, 218 USPQ 625-26.

RDI's "no evidence" assertion is shorthand for its disagreement with first the jury's and now the district court's view of the evidence, in particular the expert testimony that contact of the bolster with the spiral occurs in the Holland arrangement. Under the rules governing our jurisprudence, the jury had a right to credit that factual expert testimony, and, under those rules, the trial judge could not deprive the jury of that right by substituting his own credibility determination. Nor may we by substituting ours. Because reasonable persons, crediting that testimony, could have found that the Holland ar-

rangement did not involve the spacing asserted by RDI, the denial of RDI's motion for JNOV was required.

RDI's other attacks on the jury's verdict that are couched in terms of attacks on the denial of its motion for JNOV are without merit.

(B) Denial of New Trial Motion

Though not so designated, RDI's assertions of error in the conduct of the trial (issues (B)(1), (2), and (3)) are attacks on the denial of its motion for a new trial. These attacks would if sustained warrant a new trial (not, as RDI appears to assume, a reversal and judgment for it). As appears below, no basis exists for declaring the denial of RDI's motion for new trial to have been an abuse of discretion.

(B)(1) Submitting A Legal Issue to the Jury

RDI strenuously asserts error in the submission of the question of obviousness to the jury, citing language from an opinion of another court seeming to so state.

This court has held that it is not error to submit the question of obviousness to a jury. *Connell, supra,* slip op. at 6. As stated in *Connell,* there is no reason for distinguishing the submission of legal questions to a jury in patent cases from the routine submissions of legal issues to juries in other types of cases.

Language appearing elsewhere, to the effect that a jury "made no findings" when it returned a general verdict, or that the legal conclusion regarding obviousness must "always be made by the judge and not the jury", are as so broadly stated difficult to understand. A jury always and necessarily makes findings (albeit unwritten) before it reaches its general verdict. Similarly, a jury necessarily reaches a legal conclusion, presumably in accord with the judge's instructions on the law, before it reaches its general verdict. Moreover, it is idle to speak of the jury solely as fact finder, so long as instructions on the law and general verdicts remain elements of a jury trial.

When and if Rules 49, 50, and 51, Fed. R. Civ. P., are repealed, there may be room for the restriction of juries to a fact finding role and for prohibition of general verdicts in patent or other types of jury trials. Until that day, a prohibition of general verdicts (and disregard of the findings and legal conclusions a jury must make in reaching those verdicts) cannot be accomplished by judicial fiat.

There is, of course, no reason for considering patent cases as somehow out of the mainstream of the law and rules of procedure applicable to jury trials for centuries under our jurisprudence. Until waiver of jury trials was permitted by the Act of March 3, 1865, ch. 86, §4, 13 Stat. 501, all cases at law were tried by juries. The comparatively recent resurfacing of jury trials in patent cases, though productive of discomfort for some judges and commentators, may or may not be wise or welcome; it forms no basis for creation of special and unauthorized rules, or for the consequent risk of effectively denying the constitutional right spelled out in the first clause of the Seventh Amendment.

Thus it is neither error nor dangerous to justice to submit legal issues to juries, *the submission being accompanied by appropriate instructions on the law from the trial judge*. The rules relating to interrogatories, jury instructions, motions for directed verdict, JNOV, and new trial, and the rules governing appeals following jury trials, are fully adequate to provide for interposition of the judge as guardian of the law at the proper point and when necessary. There is no question that the judge must remain the ultimate arbiter on the question of obviousness. He or she exercises that role first in exercising the judge's duty of giving proper instructions on the law to the jury before it considers its verdict. The judge exercises control on the question again when presented with a motion for JNOV or new trial. In no sense need the judge abdicate the guardianship role. All that is necessary is that the trial judge's role, as it clearly was here, and ours on appeal, be played within the rules.

(B)(2) Interrogatories

Asserting that submission of general interrogatories (instead of specific interrogatories) was error, leading to a reversal of the roles of judge and jury, RDI centers its attack on interrogatory 1 dealing with obviousness:

> 1. Do you find that the plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground of obviousness?

The ten interrogatories submitted to the jury in this case, and the jury's answers, are found in Appendix A to this opinion. As may be seen, all but interrogatories 2, 9, and 10 are substantially identical with interrogatory 1, differing only with respect to the many grounds of invalidity asserted by RDI.

District courts have broad authority and discretion in controlling the conduct of a trial. That authority extends to the form by which juries return verdicts, Fed.R.Civ.P. 49, and will not be interfered with unless an abuse of discretion is shown. *See Hammerquist v. Clarke's Sheet Metal, Inc.*, 658 F.2d 1319, 1322-23, 212 USPQ 481, 483 (9th Cir. 1981), *cert. denied sub nom. Carsonite International Corp. v. Carson Mfg. Co.*, 103 S. Ct. 1499 (1983); *Tights, Inc. v. Acme-McCrary Corp.*, 541 F.2d 1047, 1061, 191 USPQ 305, 314-15 (4th Cir.), *cert. denied sub nom. Kayser-Roth Corp. v. Tights, Inc.*, 429 U.S. 980 (1976). RDI has not shown that the use of the present "interrogatories" constituted an abuse of discretion requiring a new trial in this case.

The challenged "interrogatory" is inartfully labeled as such by the parties. It sets forth a standard of proof ("proved by clear and convincing evidence") in relation to a legal conclusion ("invalid on the ground of obviousness"). Yet legal conclusions are not proved; facts are. Interrogatories, as such, are best employed in seeking answers to factual questions, the answers to which lead to or require a legal conclusion.

That invalidity for obviousness requires proof by clear and convincing evidence of facts establishing obviousness is subject matter not for interrogatories but for instructions on the law guiding the jury enroute to its conclusion on the legal issue submitted to it. Rule 51, Fed.R.Div.P. However, if it be error to label requests for verdicts coupled with elements of instructions on the law as "interrogatories", it must be viewed in light of the entirety of events at trial, and as so viewed it was harmless.

Though labeled as "interrogatories", the ten questions put to the jury were designed to elicit, and were treated by all concerned as having elicited, a ten-part verdict. Because validity was the only issue tried, and the ten interrogatories encompassed each of RDI's numerous defenses, RDI can hardly complain that the jury returned a separate verdict on each of those defenses, instead of returning a general verdict reading, for example, "we find in favor of Stucki" (which of course it could have done absent the ten "interrogatories"). The jury's responses were not special verdicts, because they were not simply "written finding[s] upon each issue of fact". Rule 49(a) Fed.R.Civ.P. Nor was there a single general verdict, *per se*, accompanied by "written answers" to "one or more issues of fact the decision of which is necessary to a verdict". Rule 49(b) Fed.R.Civ.P. Nonetheless, as above indicated, the parties have correctly viewed the jury's ten responses as the equal of a general verdict for Stucki. That the jury spoke specifically with respect to each defense is in this case of benefit to the courts and to the parties.

RDI's primary attack on the interrogatories, which its briefs on occasion call "instructions", centers on the statement that the patent challenger's burden is met by "clear and convincing" evidence, whereas RDI says it is met when a mere "preponderance" is shown. The burden, as above indicated, is to prove *facts* supporting defenses, not, as RDI says, to prove the *legal conclusion*

(patent invalidity) sought by those defenses. This court has said that the standard of proof of facts necessary to support a legal conclusion of invalidity is "clear and convincing". It does not change upon a showing of prior art not considered in the PTO or from defense to defense. *Connell, supra.*

RDI's assertion that the interrogatories resulted in role reversal, in which the judge played the fact-finding role of the jury, is without merit. That the judge, having considered all of the evidence in response to RDI's motions, said he would have made the same findings as those made by the jury does not constitute role reversal. Moreover, as above indicated, when a jury returns a general verdict, the law presumes the existence of fact findings implied from the jury's having reached the verdict. That the jury must make certain findings before it can reach its verdict is, as it was here, made clear in the instructions on the law given the jury. The general verdict thus includes the jury's legal conclusion and a set of implied fact findings, the latter being those necessary to support the legal conclusion encompassed in the verdict.

When, as here, the judge is presented with a motion for JNOV or for new trial and determines whether there is sufficient evidence of record to support the jury's implied findings, that is not role reversal. On the contrary, it is serving precisely the role of the judge under long established procedural rules. *See Panther Pumps & Equipment Co. v. Hydrocraft, Inc.*, 468 F.2d 225, 228, 175 USPQ 577, 579 (7th Cir. 1972), *cert. denied*, 411 U.S. 965 (1973); *May v. American Southwest Waterbed Distributors, Inc.*, 715 F.2d 876, 880, 218 USPQ 433, 437 (5th Cir. 1983).

The role of the trial judge in deciding upon motions for JNOV and new trial, and that of this court on review, are greatly facilitated when the jury has answered a series of factual inquiries in writing. When obviousness is an issue, interrogatories seeking answers in writing to inquiries drawn about those listed in *Graham v. John*

Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), insofar as the evidence adduced at trial relate to those inquiries, should be employed. *Connell, supra*, slip op. at 7, and cases cited therein; *American Hoist and Derrick Company v. Sowa & Sons, Inc.*, slip op. at 18, Nos. 83-555, 83-564 (Fed. Cir. Jan. 1984). Examples modified from those employed in a few actual cases appear in Appendix B to this opinion.

Failure to submit detailed fact interrogatories will not in every case result in the need for a new trial. Rule 49, Fed.R.Civ.P. The practice is nonethless strongly recommended as an appropriate means of guiding a jury, increasing the reliability of its verdict, and facilitating the judicial role following a jury trial.

(B)(3) Instructions

As above indicated, the district court gave the jury extended, detailed, and careful instructions on the law. Those instructions correctly required the jury to make proper findings before reaching its conclusions on legal questions presented to it. The court's instructions specifically required findings on the inquiries set forth in *Graham, supra*, before the jury reached its conclusion on obviousness. The instructions contained no error of law governing the issues at trial that would warrant a new trial.

RDI has made no effort to claim error in any instruction, perhaps for the reason that the very few errors that do appear were favorable to it ("the combination must produce a new and surprising result"; "secondary factors . . . cannot support a finding [sic, holding] that the subject matter is not [sic, would not have been] obvious if your consideration of the three [Graham] factors listed leads to the conclusion that the subject matter is [sic, would have been] obvious"). RDI's briefs include headings asserting error in the instructions, but the text under those headings discusses its foregoing objections to the interrogatories, not to the instructions.

RDI asserts: (1) that Stucki is not entitled to presume that uncited U.S. Patents 1,983,088 to Kiesel and 1,989,433 to Symington were considered in the PTO, solely because they are listed in classes and subclasses searched; and (2) that those two patents and the Holland arrangement are more pertinent than the art cited. Having introduced what it says is more pertinent art, RDI then says it need thereafter "show obviousness" only by a preponderance of the evidence, rather than be required to prove facts supporting obviousness by clear and convincing evidence. That is not the law. *Solder Removal v. ITC,* 582 F.2d 628, 633 n.9 (CCPA 1978); *Richdel v. Sunspool,* No. 83-611 (Fed. Cir. Aug. 3, 1983).

As above indicated, and assuming its art was more pertinent (an unlikely assumption in view of the verdict) RDI was not entitled to an instruction that its burden could be met by a preponderance of the evidence. The presumption of validity is neither weakened nor destroyed where art more pertinent than that considered by the PTO is introduced; the offering party is simply more likely to carry the burden of proving facts clearly and convincingly under those circumstances. *Medtronic, Inc. v. Cardiac Pacemakers, Inc.*, No. 83-820, slip op. at 5-6 (Fed. Cir. Nov. 23, 1983). Similarly, RDI's argument that it was required to prove facts establishing its "failure to set forth the best mode" defense only by a preponderance, because that issue was not before the examiner, is without merit.

RDI included among its plethora of defenses one to which it applied at trial the inappropriate and long ago discredited "late claiming" label. Because Stucki had amended its claims in the course of prosecuting its application, RDI created from that single fact four variously labeled "defenses": (1) that the claims of the '292 patent are designed to encompass RDI's product, and therefore claim an invention different from that originally claimed; (2) that the claims entered by amendment

were never supported by oath or declaration; (3) that RDI had acquired "intervening rights"; and (4) that Stucki was guilty of "late claiming". As the district court correctly recognized, the sole question raised by that single but variously stated defense is whether the claims entered by amendment were supported by the disclosure in Stucki's original application. As clearly set forth at ____ F.Supp. ____, 218 USPQ 631-632, there was ample evidence to support the finding that that question must be answered in the affirmative. RDI's argument that the patent should be held invalid in light of this many-labeled defense is and always was without merit.

Instructions must be viewed in their entirety. A new trial is permissible only when it is clear that error in the instructions as a whole was such as to have misled the jury. In the present case, we conclude that no such error occurred at any point in the instructions given the jury.

(B)(4) Oath or Declaration

As indicated immediately above, there was no basis for RDI's assertion that the patent was invalid for failure to file a separate oath or declaration in support of claims inserted by amendment, those claims being fully supported in the original disclosure. Nor was there basis for RDI's assertion on appeal that the district court erred in failing to declare the patent invalid for lack of a supplemental oath or declaration.

(C) Damages

Judge Broderick thoroughly analyzed the evidence on damages in light of the fifteen factors in *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F.Supp. 1116, 1120, 166 USPQ 235, 238 (S.D.N.Y. 1970), *modified*, 446 F.2d 295, 170 USPQ 369 (2d Cir.), *cert. denied*, 404 U.S. 870 (1971) and approved by his circuit (the Third) in *Trio Process Corp. v. L. Goldstein's Sons, Inc.*, 612 F.2d 1353, 1357, 204 USPQ 881, 883 (3d Cir.), *cert. denied*, 449 U.S. 827 (1980).

A royalty rate of 7.5% was initially suggested in Stucki's January 1975 letter to RDI concerning the possibility of a license, the letter stating that "it is contemplated that the royalty rate will not be in excess of 7½ percent of the net selling price" of a carset.

The district court found that: (1) RDI's pre-tax profit was $72/carset (four snubbers), equalling 16.4% of the sale price; (2) RDI did not make consistent profits until it introduced its infringing snubber; (3) snubber sales increased from $343,200 in 1973 to $5,591,486 by 1980; and (4) although RDI lost $46,856 in 1973 it had, after it began its infringement, a growing taxable annual income reaching $1,292,830 in 1980.

In light of the importance of snubber sales to RDI and the dollar amounts of the selling price and profit, the district court determined that a reasonable royalty was $35/carset, an amount falling in the neighborhood of 7.5% of the snubber's 1974-75 selling price.

Damages of $2,182,986 were awarded based on the sale of 52,183.5 carsets, *supra* note 1, with 6% interest.

Neither party is satisfied with the court's judgment. RDI asserts that the judgment is based on a royalty rate approach that is clearly erroneous because: (i) it is not controlled by existing licenses; (ii) it does not match Stucki's 7.5% offer; (iii) it is not based on the claimed invention; and (iv) it was applied to foreign sales; and (v) it was applied to sales made before receipt of notice. Stucki asserts: (i) it is entitled to lost profits; and (ii) that a 6% interest rate is too low.

RDI's Assertions

i. Existing Licenses

RDI points to three licenses for bolsters and sideframes having royalty rates of either 1% or $1 as evidence of an industry standard. However, three licenses relating to products entirely distinct from the patented product are insufficient here to establish an industry standard. The district court correctly refused to apply the rates of those licenses in the present case.

ii. Stucki's Offer

Based on the 1975-1980 average selling price of $416.19/carset, the royalty of $35/carset set by the district court equates to an 8.4% royalty rate. Though that rate is less than 1% greater than the maximum royalty rate contemplated by Stucki in its January 1975 letter, RDI asserts that the district court was clearly erroneous in establishing it as a reasonable royalty.

The district court considered the royalty rate expressed in Stucki's letter as one factor in reaching its damages determination, noting that the letter itself and the evidence indicated that the letter was not a firm offer, that examination of RDI's records was to have been a prerequisite to a firm offer, that no royalty rate would be accepted if it allowed a licensee to undersell Stucki, and that a minimum royalty of $500,000/year was desired to recover research and development costs. It cannot be said that the difference between 8.4% of the average selling price and a merely "contemplated" 7.5% of the *net* selling price constitutes a sufficient basis for overturning the determination of the district court.

iii. Claimed Invention

Because some claims are in Jepson format, RDI asserts that the claimed invention must be limited to a biasing spring, and that the royalty rate must be based on the $40.00 sale price of four springs. No determination of the effect of the claim preamble was made and no basis appears in the record for limiting the claimed invention to a biasing spring. RDI is presumably aware that claim 10 is drawn to a snubber assembly and is not in Jepson format. The parties sell and customers buy snubber assemblies, not merely biasing springs. RDI's arguments against the application of the royalty rate to the selling price of snubber assemblies are without merit. *Bendix Corp. v. United States*, 676 F.2d 606 (Ct. C1. 1982); *Leesona Corp. v. United States*, 599 F.2d 958, 202 USPQ 424 (Ct. C1. 1979).

iv. Foreign Sales

The award includes royalties for 1,671 carsets sold to foreign customers for installation in truck assemblies in foreign countries. Claim 10 is drawn only to the snubber assembly, not to truck assemblies. RDI admitted infringement of all claims in suit. When it made the 1,671 carsets in this country, it infringed claim 10. Whether those carsets were sold in the U. S. or elsewhere is therefore irrelevant, and no error occurred in including those carsets among the infringing products on which royalty was due.

v. Notice

RDI's mere assertion before us that it did not receive actual notice of the patent until January 13, 1975 does not establish as clearly erroneous the district court's finding that RDI had notice 40 days earlier (December 1, 1974), a finding supported by testimony that marked snubbers were sold soon after marked castings were received in November of 1974.

Stucki's Assertions

i. Lost Profits

Stucki says the district court erred because it required Stucki to prove it would have made all RDI's sales, rather than the percent of those sales Stucki would have made. The district court imposed no such requirement.

The district court stated in its published Memorandum, "[t]here was no evidence in the record upon which this court could base a finding as to the percentage of the plaintiff's infringing sales which would have been made by the defendant in the absence of infringement". _____ F.Supp. _____, 218 UPSQ at 636. It is clear that Stucki was free to prove whatever percentage of RDI sales, up to 100%, for which it was able to submit evidence. One who fails to submit evidence in support of a position cannot be heard on appeal to complain that the trial court failed to find facts upholding that position.

Stucki does attempt before us to rely on this testimony of RDI's expert:

> Q. If RDI were not in the market and if Stucki were able to sell 100 percent of the snubbers sold by RDI through 1980, by what percentage would Stucki's sales have increased?
>
> A. Approximately 68 percent.

In arguing that that testimony established that it would have made at least 68% of RDI's sales, Stucki misconstrues not only our role as an appellate court but the evidence itself. The question presupposes Stucki would have made 100% of RDI's sales and the answer indicates that *that* would have resulted in a 68% increase in *Stucki's* sales. The cited testimony thus provides no support whatever for Stucki's assertion that the testimony indicates Stucki would have made 68% of *RDI's* sales, and cannot support the view that error resides in the district court's statement concerning an absence of proof in the record.

Stucki correctly points out that 35 U.S.C. §284 provides for damages "adequate to compensate" for the infringement and provides for a reasonable royalty only as the floor beneath which a damage award should not fall. Its difficulty here lies in its failure to prove actual damages, leaving the district court with no alternative but that of measuring damages by what would have been a reasonable royalty.

ii. Interest

Lastly, Stucki asserts that a 6% interest rate neither represents the value of money nor adequately compensates Stucki for its loss. 35 U.S.C. §284 provides the court "shall award . . . damages adequate to compensate for the infringement . . . together with interest and costs as fixed by the court. . . ." That language "leaves the court some discretion in awarding prejudgment interest." *General Motors Corp. v. Devex Corp.*, 103 S.Ct.

2058, 2063 (1983); *Lam, Inc. v. Johns-Manville Corp.*, 718 F.2d 1056, 1066, 219 USPQ 670, 676 (Fed. Cir. 1983). Though the court could have selected a higher interest rate, Stucki's mere assertion that 6% is too low does not establish that an abuse of discretion occurred here.

Stucki tells us that in 1980 it stipulated to delay an injunction until decision on appeal, that it learned in the proceedings on damages that the two shareholders of RDI had been and were milking RDI of its assets, that it then filed a motion for an injunction on which the district court had not acted when this appeal was filed, that RDI's two stockholders received from RDI $2,200,000 and $1,000,000, all gained from RDI's infringement during the litigation, that RDI's infringing sales from just before the suit was filed were $19,000,000, with a $9,000,000 gross margin, that Stucki suffered actual damages of more than $7,000,000 over the more than five years from filing to completion of trial while it waited for a decision. The plight of the patent owner in this case may invoke sympathy; it cannot invoke a finding of abuse of discretion.

If Stucki waived an injunction in a mistaken expectation that RDI would remain responsible in damages, that is unfortunate. Nothing of record establishes the extent to which Stucki may have contributed to the five year delay before trial. In all events, the district court conducted a full proceeding on damages, at which Stucki was found not to have established its actual damages under 35 U.S.C. §284. No basis exists therefore for overturning the award of damages and interest made in light of those proceedings.

Further Proceedings

Upon return of this case to the district court, and assuming Stucki's motion for an injunction has not by then been acted upon, we presume that it will be granted at an early date. In determining damages to be

awarded for infringement occurring from the March 28, 1983 final judgment until the grant of the injunction, the rate of interest applicable to those damages is equal to the coupon issue yield of U.S. Treasury bills. 28 U.S.C. §1961 (1982). Stucki's concern for its ability to collect the full amount finally awarded is a matter for presentation to the district court, which may, of course, modify its judgment and is not without power to enforce it.

Costs

The limit lines of lawyering are not always clear. The zenith of zeal was approached if not exceeded by those of RDI's defenses having no true basis in fact or law. Similarly, like RDI, Stucki sought on appeal a retrial of the facts on damages and a *de novo* approach to misconstrued testimony in the face of the district court's express finding, supported on the record, that it had not proved its actual damages. This court is content therefore to leave the parties where it finds them and to provide herewith that each party shall pay its own costs on appeal.

Decision

No prejudicial legal error having been shown to have influenced the jury's verdict, the denial of RDI's motion for JNOV having been eminently correct, the denial of RDI's motion for new trial representing no abuse of discretion, and no error having been shown in Judge Broderick's order awarding $2,182,986 in damages and interest, the final judgment entered on March 28, 1983 is affirmed.

AFFIRMED

APPENDIX A

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

Civil Action
No. 76-800

RAILROAD DYNAMICS, INC.
v.
A. STUCKI COMPANY

INTERROGATORIES TO THE JURY

We, the jury in the above captioned case, unanimously find as follows:

Instructions: Answer questions 1, 2 and 3A.

1. Do you find that the plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground of obviousness?
   YES_____ NO__X__
2. Do you find that defendant has proved by a preponderance of the evidence that the effective filing date of the invention claimed in United States Patent No. 3,837,292 is August 22, 1969?
   YES__X__ NO_____

3A. Do you find that plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground that the invention claimed was known, in public use or on sale more than one year prior to the effective filing date of the patent application?
   YES_____ NO__X__

Instructions: If your answer to question 3A is "No", proceed to question 4 and following questions. If your answer to question 3A is "Yes", answer question 3B and following questions.

3B. Do you find that defendant has proved by clear and convincing evidence that use or sale of the claimed invention was an experimental use?
YES_____ NO_____

4. Do you find that plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground that the amendment to the patent application filed on April 18, 1972 required a supplemental oath or declaration in that the amendment contained matter originally shown or described but not substantially embraced in the statement of invention or claim originally presented in the application?
YES_____ NO___X_

5. Do you find that the plaintiff has proved by clear and convincing evidence that United States Patent No. 3,387,292 is invalid for late claiming?
YES_____ NO___X_

6. Do you find that plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground that the patent application failed to set forth the best mode contemplated by the inventor for carrying out his invention?
YES_____ NO___X_

7. Do you find that plaintiff has proved by clear and convincing evidence that claims 7 and/or 9 of United States Patent No. 3,837,292 are invalid on the ground they do not particularly point out and distinctly claim the subject matter which the applicant regards as his invention?
YES_____ NO___X_

8. Do you find that plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground that the specification of the application does not provide a description such that it would enable one skilled in the art to practice the invention?
YES_____ NO__X__

Instructions: If you have found by any of your answers to prior questions that Patent No. 3,837,292 is invalid, then proceed no further. If, however, you have not found the patent to be invalid, answer questions 9 and 10.

9. Do you find that plaintiff has proved by a preponderance of the evidence that it has acquired intervening rights under United States Patent No. 3,387,292?
YES_____ NO__X__

10. Do you find that defendant has proved by a preponderence of the evidence that plaintiff's infringement of United States Patent No. 3,827,292 was willful?
YES_____ NO__X__

_____
(Signature of Foreperson)

Dated: June 10, 1980.

APPENDIX B

Interrogatories

(MARK YES OR NO)	YES	NO
1. Is the _____ article within the scope and content of the prior art?	☐	☐
2. Did the impedance associated with the low pass filter of the phase locked loop in the _____ Stereo Tuner have substantially equal charge and discharge time constants?	☐	☐
3. Does the _____ Stereo Tuner have constant driving impedance?	☐	☐
4. Does the term "constant driving impedance," as used in U.S. Patent No. _____ ("the reissue patent") teach a person of ordinary skill in the art how much variation that impedance can have and still be "constant"?	☐	☐
5. Was claim 1 of the reissue patent broadened in some respect from its scope in the original patent?	☐	☐
6. Did the inventor listed in the reissue patent act with bad faith or gross negligence when he made the statements of fact to the United States Patent and Trademark Office regarding the operation of the _____ Stereo Tuner?	☐	☐
7. Does the _____ chip have the following elements (which are set forth in each of asserted claims 3, 4, and 5):		
A first filter means?	☐	☐
A second filter means?	☐	☐
A constant driving impedance?	☐	☐

8. With respect to asserted claim 3, does the _____ article disclose:
   a. "a method of attaching a _____ lead of a _____ to a _____" ☐ ☐
   b. "obtaining access to the _____" ☐ ☐
   c. "screwing a free end of the ____ lead into the _____" ☐ ☐
9. Is the level of ordinary skill in the pertinent art that of a _____? ☐ ☐
10. Is the level of ordinary skill in the pertinent art that of the combination of skill and knowledge of a _____ together with the expertise of a _____ engineer having a mechanical or electrical aptitude or engineering degree ☐ ☐

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

Appeal Nos. 83-951
and 83-961

RAILROAD DYNAMICS, INC.,
Appellant/Cross-Appellee,

v.

A. STUCKI COMPANY,
Appellee/Cross-Appellant.

NICHOLS, *Senior Circuit Judge*, concurring in the result.

I concur in the result and join in the portion of the opinion captioned (c) *Damages*. Much, and perhaps all, that is said in the prior parts of the opinion is correct, but I have serious qualms about saying it. The attempt is to have comprehensive guidelines as to all contingencies likely to arise when a jury is asked or allowed to return a general verdict dealing with the issue of obviousness under §103 of the Act. No doubt district courts have a need for these guidelines and it would be a worthy enterprise for one of our able textbook writers. I have qualms about its being attempted by a panel of three judges of a twelve-judge court, even given a panel as distinguished as this one, though but reflected glory in the case of this writer.

The trouble is, it is impossible to foresee all contingencies. In future cases parts of this opinion will be cited, and the response will be made that the words referred to are dicta. Future judges of this court may be struck by our wisdom and wish to follow our words, or they may perceive they are confronted with a problem we did not foresee, and find our words an embarrassment. In the latter event, it cannot now be predicted

whether they will profess themselves bound by our statements, or reject them as nonbinding dicta. The future utility or subsequent career of a dictum is wholly unpredictable, and that is why judges over centuries have avoided dicta, or at least said they were doing so. When a judicial exposition relates to a concrete issue to be decided, the record facts add meaning to the words, and safeguards exist against their being read out of context. With a dictum this is not so, and it may well end up having an effect the judicial author never intended.

Of course, the court should always state the rule of law it relies on, and this rule may cover more than the case before the court. Or dictum may be forensically necessary, for example, to deal with the arguments so commonly urged, predicting imaginary horribles if the court does what it has decided to do. Such forgivable dicta must be carefully limited and hedged.

But if I were to pronounce a dissertation on the subject at hand, I would start with the recent scholarly and comprehensive consideration by the Seventh Circuit, *en banc*, *Roberts* v. *Sears, Roebuck & Co.*, No. 82-1886 (Dec. 21, 1983). I take it this is the "[l]anguage appearing elsewhere" referred to in Part (B)(1). Our own exclusive jurisdiction of certain classes of cases does not require us to follow opinions in such cases by other courts, but it does not require that we ignore them either. In my consideration of this difficult topic, I would grope for light from wherever it might emanate.

The obviousness issue in the instant case is, however, simple, and it can readily be shown that the district judge committed no reversible error. Railroads needed more effective snubbers to deal with car roll and pitch, in view of increasing speeds and load weights, and deteriorating roadbeds. Our inventor perceived that prior art snubbers needlessly attempted to control the entire broad range of car weight from full to empty. The prior art snubbers worked all right, but were not as efficient as the Stucki invention. He contrived a snubber that was

inoperative when the car was empty and engaged only when the car was partially loaded. Railroad Dynamics alleged, however, that the prior art but unpatented Holland device did the same job in almost the same way. Allegedly it too went out of contact at light car loads. The greatest difference between the Holland and Stucki snubbers was not patentably relevant, *i.e.*, the Stucki device in suit was hydraulic and Holland's was not. Stucki offered substantial evidence, however, which the jury could have believed, and in view of the verdict, doubtless did, that the Holland device did not work in the manner asserted by RDI. This is really all there was on the obviousness point. As the Chief Judge says, RDI wanted us to make a finding of our own contrary to the jury's, which we are not at liberty to do. There was no issue as to the jury being inadequately or erroneously instructed as to the obviousness issue or any other point. Surely no federal court, however deluded it may be about patent law in some more difficult areas, would reverse on this merely factual issue.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

Civil Action
No. 76-800

RAILROAD DYNAMICS, INC.,
Plaintiff,

v.

A. STUCKI COMPANY,
Defendant

MEMORANDUM

BRODERICK, *J.* MARCH 25, 1983

This is a declaratory judgment action instituted by plaintiff Railroad Dynamics, Inc. ("RDI") against A. Stucki Company ("Stucki") seeking a declaration that United States Patent Number 3,837,292 (hereinafter "the '292 patent" or the "patent in suit") is invalid. This Court has jurisdiction over the action under 28 U.S.C. §§2201 and 2202 and 28 U.S.C. §1338(a).[1] Stucki, the owner of the patent as assignee of the inventor, Donald

1. At the time this case was tried, appeals from a district court in cases arising under 28 U.S.C. §1338 were heard in the regional courts of appeals and thus an appeal from a decision of this Court would have been heard by the Third Circuit. Jurisdiction of appeals in which the jurisdiction of the district court was based in whole or in part on §1338 is now vested exclusively in the United States Court of Appeals for the Federal Circuit, 28 U.S.C. §1295(a)(1); 28 U.S.C. §171, note (West Supp. June, 1982). Since this Court and the parties have made extensive reference to cases from other Circuits at both the trial and the post-trial stages of this proceeding, and since the relevant law of the Third Circuit appears to be in harmony with the law of other Circuits, and with that of the former Court of Customs and Patent Appeals, we have not considered this change to require any further proceedings or any additions to the already extensive briefing by the parties of the legal issues in the case.

Wiebe, counterclaimed against RDI alleging that the patent was valid and infringed by RDI. RDI has admitted that if the patent is found to be valid, RDI has infringed the patent.

Following a fifteen day trial a jury, in its answers to eleven special interrogatories, found for defendant on all validity issues submitted. The damages portion of the case was then tried to the Court, and judgment was entered on August 26, 1981 in favor of Stucki and against RDI in the amount of $1,960,700.

Plaintiff has moved for judgment notwithstanding the verdict, or, in the alternative, for a new trial, contending that the evidence was insufficient to support the jury's findings and that, as a matter of law, the '292 patent is invalid. RDI contends, as it contended at trial, that the patent is invalid for four reasons: 1) the invention claimed was obvious in view of the prior art at the time of invention, and hence was unpatentable under 35 U.S.C. §103; 2) the patent fails to disclose the best mode of installing and retaining the patented device, rendering the patent invalid under 35 U.S.C. §112; 3) the claims in the patent were filed more than one year after sale and use of the claimed invention, rendering the patent invalid under the late claiming doctrine; and 4) no supplemental oath was filed in support of the claims which ultimately became the claims of the patent, a violation of 37 C.F.R. §1.67 which renders the patent invalid. RDI further contends that even if the patent is valid, it has intervening rights under 35 U.S.C. §252 to continue to make and sell its infringing device because Stucki added the claims which cover RDI's device only after seeing RDI's device in use. Finally, RDI submits that this Court erred in its charge to the jury, making a new trial necessary if judgment notwithstanding the verdict is not granted. For the reasons which follow, we reject all of plaintiff's contentions, and we will deny its motion for judgment notwithstanding the verdict or, in the alternative, for a new trial.

The standards by which a court must decide motions for a new trial and for judgment notwithstanding the verdict have been set forth by this Court as follows:

> [1,2] Motions for a new trial require the exercise of discretion by the Court, whose "duty is essentially to see that there is no miscarriage of justice." 6A *Moore's Federal Practice* ¶59.08[5], at 59-160 (footnote omitted) (2d ed. 1974); *Thomas v. E. J. Korvette, Inc.*, 476 F.2d 471, 474-75 (3d Cir. 1973). The jury's verdict may be set aside only if manifest injustice will result if it were allowed to stand. The Court may not substitute its own judgment for that of the jury merely because the Court may have reached a different conclusion. To grant a motion for judgment n. o. v., the Court must find as a matter of law that the plaintiff failed to adduce sufficient facts to justify the verdict. *Neville Chemical Co. v. Union Carbide Corp.*, 422 F.2d 1205, 1210 (3d Cir.), *cert. denied*, 400 U.S. 826, 91 S.Ct. 51, 27 L.Ed.2d 55 (1970). Such a motion "may be granted only when, without weighing the credibility of the evidence, there can be but one reasonable conclusion as to the proper judgment." 5A *Moore's*, *supra*, ¶50.07[2], at 50-77 (footnote omitted); *Korvette*, *supra*, at 474.

Douglas W. Randall, Inc. v. AFA Protective System, 516 F.Supp. 1122, 1126 (E.D. Pa. 1981), *aff'd* 688 F.2d 820 (3d Cir. 1982).

These standards are applicable to patent cases. Although the question of patent validity, including the determination of the obviousness or non-obviousness of the subject matter of a patent is ultimately a legal one, the determination depends on underlying questions of fact. *Northern Plastics Engineering Co. v. Eddy*, 652 F.2d 333, 336 (3d Cir. 1981); *Tights, Inc. v. Acme-McCrary Corp.*, 541 F.2d 1047, 1060 (4th Cir.) *cert. denied sub nom. Kaiser-Roth Corp. v. Tights, Inc.* 429 U.S.

980 (1976); *Stevenson v. International Trade Commission*, 612 F.2d 546, 549 (CCPA 1979).[2] Where, as here, the jury has found a patent to be non-obvious, and has made other findings which support the validity of the patent, these findings are determinations that the disputed factual questions with respect to the issues of obviousness and validity have been resolved favorably to the patentee. *Dual Manufacturing & Engineering, Inc. v. Burris Industries, Inc.*, 619 F.2d 660, 664 (7th Cir.) (*en banc*) *cert. denied* 449 U.S. 870 (1980). The jury's factual findings may not be overturned if supported by sufficient evidence, viewing the record in the light most favorable to the verdict winner, and giving the verdict winner the benefit of all reasonable inferences. *Black and Decker Manufacturing Co. v. Sears, Roebuck & Co.*, 679 F.2d 1101, 1103 (4th Cir. 1982); *Velo-Bind, Inc. v. Minnesota Mining & Manufacturing Co.*, 647 F.2d 965, 971 (9th Cir.) *cert. denied* 102 S.Ct. 658 (1981).

Much of the background to this case was set forth in this Court's memorandum of August 25, 1981 on the damages issues, and can be summarized as follows:

The patent in suit concerns the spaced placement of a hydraulic shock absorber or "snubber" in the spring group of a railroad freight car, between the bolster and the side frame, held in place by a biasing spring so that it is normally operative only when the car is loaded and is

---

2. Plaintiff contends, now as at trial, that since the question of obviousness is ultimately one of law, it is error to submit the issue in an interrogatory to the jury for its determination, as was done in the trial of this case. This contention has been consistently rejected. *Tights, Inc.*, 547 F.2d at 1061; *Control Components, Inc. v. Valtek, Inc.*, 609 F.2d 763, 766-67 (5th Cir. 1980) *cert. denied* 449 U.S. 1022; *Velo-Bind, Inc. v. Minnesota Mining & Manufacturing Co.*, 647 F.2d 965, 971 (9th Cir.) *cert. denied* 102 S.Ct. 658 (1981); *Panther Pumps & Equipment Co., Inc. v. Hydrocraft, Inc.*, 468 F.2d 225, 228 (7th Cir. 1972) *cert. denied* 411 U.S. 965. *See E. I. DuPont de Nemours & Co. v. Berkley & Co., Inc.* 620 F.2d 1247, 1261 (8th Cir. 1980).

normally inoperative when the car is unloaded.[3] A freight car has four side frames, each of which holds two of the car's eight wheels. A freight car also has two bolsters. A bolster is a metal rod which connects the two side frames at each end of the freight car. The spring group is a group of springs, usually eight to ten in number, located between the wheels in each side frame. Each end of a bolster is attached to and rests upon the springs in the spring group of a side frame. An illustration of the shock absorber in the patented location is given in Figure 1.[4]

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3. Claim 1 of the patent in suit sets forth the invention as follows:

> 1. In a dampened railway truck assembly selectively operable in loaded and unloaded conditions and having a hydraulic snubber apparatus interposed in a spring group intermediate a bolster member and a side frame member, the improvement comprising: means interposed between said snubber apparatus and one of said members to bias said snubber apparatus towards the other of said members; said means being operative to bias said snubber apparatus out of operative engagement with said one of said members when said truck assembly is normally operating in an unloaded condition; and said means and said snubber apparatus being cooperable to initiate hydraulic snubbing by said snubber apparatus substantially only when said railway truck assembly is normally operating in a loaded condition, the bias of said means is partially overcome and said snubber apparatus is in operative engagement with both of said members.

4. In Figure 1, the shock absorber is indicated by Number 132, the bolster by 118, and the side frame by 121. 22 and 23 indicate springs within the spring group.

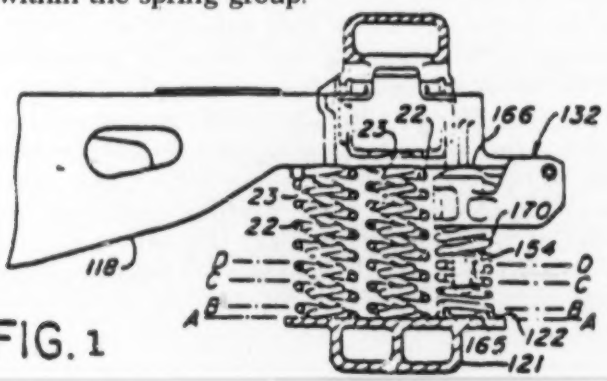

FIG. 1

The springs in the spring group operate in the same manner as springs in an automobile and absorb energy when the freight car is in motion. The energy absorption capacity of the springs is not sufficient, however, to control the movement of many large freight cars, particularly when such cars are being operated at higher speeds or on railroad track that is in poor condition. In such circumstances, these large freight cars begin to rock from side to side, a phenomenon known in the railroad industry as "rock and roll". Primarily on curved track, the rock and roll motion of a freight car can become so severe that the freight car body can be lifted off the center plate upon which it rests, and one or more wheels can actually be lifted off of the track for a fraction of a second. If the wheel does not return to the track, a derailment occurs. Though this problem previously existed in the industry it became particularly acute when 100-ton capacity freight cars, 25-30% larger than previously existing cars, were introduced around 1964. (N.T. 3.109)

In order to prevent derailments due to "rock and roll", the railroad industry developed shock absorbers, or "snubbers", designed to provide added energy absorption capacity to that already supplied by the springs in the spring group. A number of companies developed friction snubbers, designed to dissipate rock and roll energy in the form of heat by bringing two pieces of metal together while the freight car was in motion. In the mid to late 1960's RDI and Stucki manufactured hydraulic snubbers that absorbed excess energy by use of the principles of hydraulics. No snubber completely absorbs all of the energy created by the rock and roll motion of a freight car, but it is claimed that hydraulic snubbers absorb a greater amount of energy than friction snubbers. Only RDI and Stucki manufactured hydraulic snubbers which were accepted in the trade in the late 1960's.

The Stucki hydraulic snubber based on the patent in suit, known as the "HS-6" snubber, is located in the spring group and designed so that it does not become en-

gaged, or begin to absorb energy, until a freight car is loaded with freight. The HS-6 is installed in a spring group by removing one of the outboard springs of the group and replacing it with the HS-6 unit. Since the HS-6 unit is not as long as the distance between the bolster and the side frame, the unit makes use of a "biasing" spring located between the side frame and the snubber which holds the snubber in place and away from the side frame when the freight car is empty. The snubber is pressed into contact with the side frame when the car is loaded and, once pressed into contact, can begin to absorb energy.

The patent in suit, number 3,837,292, was issued to Donald Wiebe on September 24, 1974. It was based on an application [PX-3] filed April 15, 1971. This application was a continuation-in-part of application number 857,274, filed August 22, 1969 [PX-6] ("the parent application"), which was itself a continuation-in-part of application number 709,142, filed February 28, 1968 and later abandoned [PX-7] ("the grandfather application"). Figures 9-12 of the parent application, along with related specifications, were transferred without change to the patent in suit, becoming figures 5-8 of the patent in suit. The remainder of the parent application matured as United States Patent Number 3,595,350, issued to Donald Wiebe on July 27, 1971.

Plaintiff RDI has also marketed an hydraulic snubber placed in the spring group, spaced so that it is engaged only when the freight car is loaded. This snubber is known as the "Control Master" (C/M) snubber. The C/M snubber was designed and built by RDI's president, Stuart Schwam, in three weeks in the fall of 1971. (N.T. 2.38). The C/M snubber is located in the spring group in place of the center spring of the group, and is attached to the side frame and spaced from the bolster by a spring lodged between the top of the snubber and the bolster. RDI has admitted that this device infringes the patent in suit should the patent in suit be found to be valid.

Presumption of Validity

Any analysis of patent validity must begin "with the recognition that a patent is presumed to be valid, and that the burden of establishing invalidity rests on the party asserting it." *Tokyo Shibaura Electric Co., Ltd. v. Zenith Radio Corp.*, 546 F.2d 88, 93 (3d Cir. 1977). This presumption requires invalidity to be demonstrated by strong, clear and convincing proof. *Id. Aluminum Company of America v. Amerola Products Corp.*, 552 F.2d 1020, 1024 (3d Cir. 1977); *Moon v. Cabot Shop, Inc.*, 270 F.2d 539, 541 (9th Cir. 1959); *See* P. Rosenberg, Patent Law Fundamentals §17.05, at 17-27. Moreover, this presumption applies not only to the determination of non-obviousness necessarily implicit in the grant of a patent, but also to those other matters considered by the Patent Office, such as the adequacy of disclosure, and the allowability of additional claims. *Trio Process Corporation v. L. Goldstein's Sons, Inc.*, 461 F.2d 66, 74 (3d Cir.), *cert. denied* 409 U.S. 997 (1972); *Eli Lilly and Co. v. Premo Pharmaceutical Laboratories, Inc.*, 630 F.2d 120, 133-34, (3d Cir.), *cert. denied*, 449 U.S. 1014 (1980), citing *Triax Co. v. Hartman Metal Fabricators, Inc.*, 479 F.2d 951, 956-57 (2d Cir.), *cert. denied* 414 U.S. 1113 (1973); *Baldwin-Lima-Hamilton Corp. v. Tatnall Measuring Systems*, 169 F.Supp. 1, 21 (E.D. Pa. 1958), *aff'd* 268 F.2d 395 (3d Cir.), *cert. denied*, 361 U.S. 894 (1959). With respect to the determination of non-obviousness the presumption is weakened when relevant prior art has not been considered by the Patent Examiner. *Aluminum Corp. of America v. Amerola Products Corp.*, 552 F.2d at 1024. In such a case, "the degree by which the presumption is weakened depends upon a balancing of the pertinence of the newly cited art against the pertinence of the art actually considered by the Patent Office." *Id.* Even should the presumption of validity be weakened, however, it does not shift the burden of persuasion, which "is and always remains upon the

party asserting invalidity, as required by 35 U.S.C. §282." *Stevenson,* 612 F.2d at 551.

Several courts have held that the examiner's search record provides prima facie evidence that he searched all the references in the classes and subclasses noted on the file wrapper as having been searched. References in such subclasses left uncited are presumed to have been regarded by the examiner as less relevant than those cited. *Panduit Corp. v. Burndy Corp.*, 517 F.2d 535, 538 n.2 (7th Cir.) *cert. denied,* 423 U.S. 987 (1075) [sic]; *E. I. du Pont de Nemours & Co. v. Berkley & Co., Inc.*, 620 F.2d at 1267. "A contrary view would destroy the presumption of administrative regularity on which the presumption of validity rests." 620 F.2d at 1267.

Plaintiff contends that the Court was in error in instructing the jury that plaintiff must prove its contentions concerning the invalidity of the patent, which were, of course, contrary to the determinations of the Patent Office, by clear and convincing evidence. Plaintiff's allegation of error is untenable in light of the presumption of validity as discussed in the cases cited above. Plaintiff further contends that the court erred in charging that the plaintiff had the burden of proving obviousness by clear and convincing evidence and that plaintiff's burden should instead have been a preponderance burden, since the evidence showed that relevant prior art had not been considered by the examiner. Specifically, plaintiff relies on four references in the prior art which, plaintiff contends, taken together, render defendant's claimed invention obvious. These references are (1) United States Patent Number 1, 983, 088, issued December 4, 1934 to W. F. Kiesel [PX-27] ("the Kiesel patent"); (2) United States Patent Number 1, 989, 433, issued January 29, 1935 to T. H. Symington [PX-60] ("the Symington patent"); (3) a description of an hydraulic shock absorber manufactured by the Monroe Auto Equipment Company, designed to replace one spring in each spring group, which description appeared in the

March 3, 1945 issue of Railway Age at page 421, [PX-68] ("the Monroe snubber"); and (4) a spring group arrangement manufactured and sold by the Holland company, in which two "E-2" Holland volute springs, which operated as friction snubbers, were used with eight "D-5" springs.[5] This arrangement (hereinafter "the Holland snubber") is illustrated in a drawing dated February 8, 1966, reproduced as Figure 2 [PX-78]. An "adapter spring" was used in this arrangement to prevent the Holland snubber from falling out of the spring nest.

The question of whether the patents cited by RDI were more pertinent to the determination of obviousness than the prior art cited by the Examiner was properly one for the jury. *Tights, Inc. v. Acme-McCrary Corp.*, 541 F.2d at 1047; *Aluminum Corporation of America v. Amerola Products Corp.*, 552 F.2d at 1025 n.8. The jury in this case was properly instructed, in accordance with the *Alcoa* and *du Pont* cases cited above, as to the standards for making this determination and as to the effect on the presumption of validity of a determination that more relevant prior art had not been cited (N.T. 14.122-23). There is no basis for plaintiff's allegation of error.

Moreover, we find that there was sufficient evidence in the record for the jury to have determined that the presumption of validity was not weakened in this case because the material considered by the Patent Office effectively incorporated the significant prior art. *See Northern Plastics v. Eddy*, 652 F.2d at 338-39 n.13. The Kiesel patent and the Symington patent are both classi-

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5. The E-2 volute snubber has a "free height", or uncompressed height, of approximately 9⅛", and a solid or fully compressed height of $6^{9}/_{16}$". Thus, its "travel" is 2½". The D-5 spring has a free height of about 10¼" and a solid height of $6^{9}/_{16}$". Thus, its "travel" is $3^{11}/_{16}$". The E-2 volute snubber was later known as a D-3 volute snubber, the change in terminology being necessary for consistency with the standard dimensions and terminology of the American Association of Railroads (AAR). (N.T. 2.63, 2.101, 8.91).

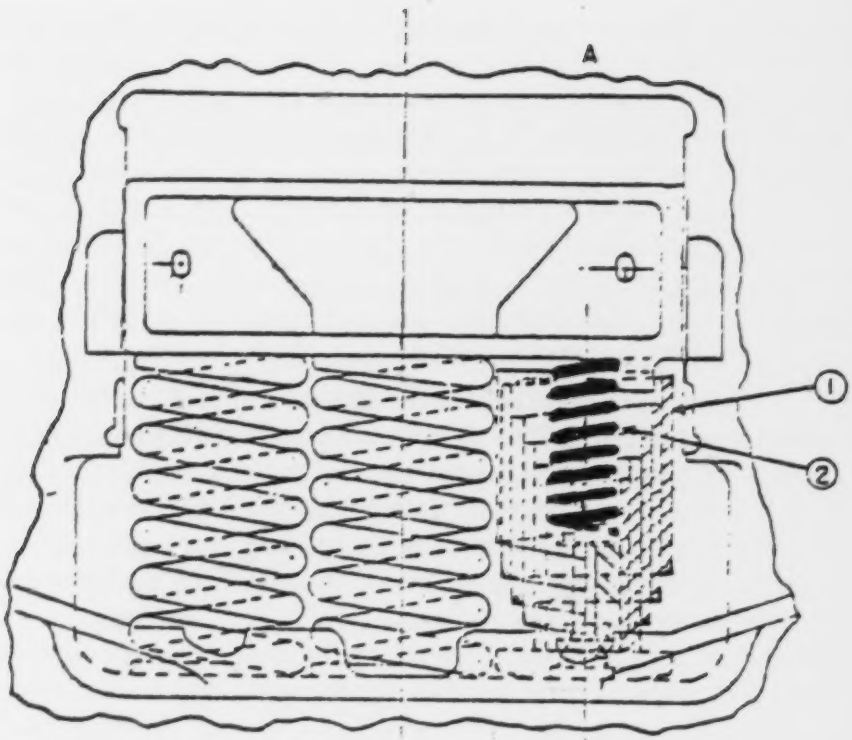

FIGURE 2

HOLLAND COMPANY
CHICAGO, ILL.

SPRING GROUP ARRANGEMENT
HOLLAND VOLUTE SNUBBER SPRING,
STYLE E-2, TO L&N R.R. 80 TON
HOPPERS, NOS 167000-167999

DATE 2/8/66 DRAWING NO B-333 ISSUE

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fied in subclasses cited by the Examiner. The Monroe snubber's teaching of placement of a hydraulic snubber in a spring group is substantially the teaching of United States Patent Number 3, 464, 366 granted to O. E. Seay on September 2, 1969 ("the Seay patent"). The Seay patent was cited by the Examiner. The teaching of the Holland snubber was a hotly contested issue at trial, and the jury could well have concluded that it taught no more than the art cited by the Examiner. The evidence showed, for example, that the Seay patent cited by the Examiner included a return spring which was similar in function to the adapter spring in the Holland arrangement (N.T. 12.5, 12.88).[6] Finally, our own evaluation of the evidence adduced on the question of obviousness, discussed below, leads to the conclusion that it does not support a finding of obviousness even by a preponderance of the evidence.

OBVIOUSNESS

35 U.S.C. §103 provides that a patent may not be obtained if the claimed invention would have been obvious to a person of ordinary skill in the art to which the subject matter of the invention pertains.[7]

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6. Since the statutory presumption of validity is "heightened by a showing that the prior art was adequately considered," *Shackelton v. J. Kaufman Iron Works, Inc.*, 689 F.2d 334, 339 n.3 (2d Cir. 1982), the instruction given may in fact have been less generous to the defendant than that to which it was entitled.

7. 35 U.S.C. §103 reads as follows:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The standards for evaluating obviousness were set forth by the Supreme Court in *Graham v. John Deere Co.*, 383 U.S. 1, 17-18, 86 S.Ct. 684, 693-94 (1966), as follows:

> Under §103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness of nonobviousness, these inquiries may have relevancy.

Under the holdings of the Third Circuit and at least four other circuits, combination patents, i.e., patents on inventions which combine known elements, are analyzed in light of the factors set forth in *Graham*, and not held to any higher standard of nonobviousness. *Rengo Company, Ltd. v. Molins Machine Co., Ltd.*, 657 F.2d 535, 544 & n.18 (3d Cir. 1981), *cert. denied*, 454 U.S. 1055 (1982); *Plastic Container Corp. v. Continental Plastics*, 607 F.2d 885, 904-05 (10th Cir. 1979); *Champion Spark Plug Co. v. Gyromat Corp.*, 603 F.2d 361, 372 (2d Cir. 1979); *Republic Indus., Inc. v. Schlage Lock Co.*, 592 F.2d 963, 967-72 (7th Cir. 1979); *Nickola v. Peterson*, 580 F.2d 898, 912 n.22 (6th Cir. 1978). *See*, L. Pretty, A Forecast of CAFC Holdings on Issues Unsettled in the Circuits Based on CCPA Precedents, 10 APLA Journal 270, 271-72 (1982) (predicting that the Federal Circuit will reject "synergy" as a requirement for patentability of combination patents).

Our primary inquiry under *Graham* concerns (1) the scope and content of the pertinent prior art; (2) the

difference between the prior art and the claims at issue; and (3) the level of ordinary skill in the pertinent art. We have set forth above the references in the prior art upon which plaintiff has placed its primary reliance in seeking a declaration of the invalidity of the patent in suit. The testimony at trial showed that the relevant level of skill was at least that possessed by an "ordinary engineer" with knowledge of mechanical design principles and vibration theory equivalent to that of a college graduate, and with some experience in the railroad industry. (N.T. 2.49, 3.36, 3.72, 4.102) The relevant level of skill is that possessed by a designer, not a user, of the railroad suspension devices here in issue. *In re Nalbandian*, 661 F.2d 1214, 1216 (CCPA 1981) (citing similar holdings from the Second, Third, Tenth and District of Columbia Circuits).

The testimony at trial showed several significant differences between the prior art relied upon by the plaintiffs in seeking to invalidate the patent due to obviousness and the subject matter of the patent in suit, and established that the prior art did not embody the primary advantages of the patent in suit.

Of the prior art devices cited, only the Holland snubber included a spring in a location between the snubbing device and the bolster or side frame. Testimony at trial showed that the Holland "adapter spring" was designed to, and operated to, retain the snubber in the spring group, and not to keep the snubber out of operative engagement with the bolster in light loads.[8] (N.T. 12.74, 12.19-20). The biasing spring of the patent in suit was designed, and operated, however, to accommodate all of the complex motions associated with the "rock and roll" of a freight car, lateral as well as axial.

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8. Testimony at trial also showed that a spring on the Monroe snubber had a similar purpose (N.T. 11.142). The Monroe snubber was designed to be in constant contact with the bolster and side frame.

(N.T. 11.142-43, 12.19-21, 12.71-72). There was a great deal of testimony concerning the tendency of the Holland snubber to "trap" or become stuck in a compressed position (N.T. 2.151-52, 3.175-76). Under these circumstances a method for retaining the Holland snubber in the spring group and for urging its reextension into its normal operating position was necessary. This was the function primarily performed by the Holland adapter spring (N.T. 2.156, 3.117, 175, 11.142).

There was also testimony showing that the Holland arrangement did not maintain a constant and uniform spacing of the snubber from the bolster. Testimony was given showing that the Holland device, in normal operating conditions, was in constant contact with the bolster member, so much so that the top of the volute coil actually "Brinelled", or wore groves, of as much as a quarter of an inch into the bottom of the bolster. (N.T. 2.166-67, 11.140). The Holland spring did not make contact with the top of the volute coil in order to prevent this undesirable effect. Instead, it was connected to the bushing around a nut in the interior of the snubber device (N.T. 3.181, 9.11-12). While this placement may have aided in the reextension of a "trapped" snubber, it did not maintain the snubber out of operative engagement with the bolster.

The biasing spring of the patent in suit, by contrast, does respond to lateral as well as axial movement, enabling the device to achieve its goal of maintaining the snubber out of operative engagement with the bolster or side frame in light loads. Moreover, this biasing spring is able to maintain a more uniform spacing between the snubber and the bolster or side frame. The problems of "trapping" and of "Brinelling", with the resultant wear on the bolster or side frame, are thus largely overcome.

Both the Kiesel patent and the Symington patent, while indicating the desirability of spacing between a snubber and a side frame or bolster under light load conditions, did not provide effective means to accomplish

this goal, as did the patent in suit. There was, in fact, testimony at trial that neither snubber would have been able to function in order to achieve the results each claimed or sought. (N.T. 9.39, 11.124, 129-30). In addition, the Kiesel and Symington devices were designed for use on cars with "plain" side bearing journals, rather than on cars with "roller" side bearing journals. (N.T. 8.75-76, 9.35-36). Neither device was, therefore, designed to control nor, according to the testimony, could have effectively controlled, the greater degree of lateral movement, allowed in the more modern "roller" journal cars, which lateral movement was considered to be a factor in creating "rock and roll". (N.T. 9.35, 41, 44-45, 11.123-24). All of these differences between the prior art and the patent in suit show that the patented device represented a significant advance in the attempts of the designers of railroad suspension equipment to control the "rock and roll" problem, and did not merely apply "knowledge clearly present in the prior art." *Cf. In re Sheckler,* 438 F.2d 999, 1001 (CCPA 1971).

As stated above, the fact that a claimed invention combines elements known in the prior art does not mean that in determining obviousness we should hold it to a standard different from that which *Graham* mandates.

> Of course, virtually all mechanical inventions are new combinations of old elements. The pertinent question is not whether each element was known or obvious, but whether, considering the invention as a whole, it would have been obvious to combine the elements in the claimed relationship, and a court may look to such evidence of unobviousness as new and advantageous results achieved by the claimed invention, industry acceptance, commercial success, and copying by others.

Square Liner 360°, Inc. v. Chisum, 691 F.2d 362, 369 (8th Cir. 1982) (citations omitted). The elements of the claimed invention in the '292 patent had never pre-

viously been combined in the manner set forth in the patent. The biasing spring in particular performs a function substantially different from that of previous springs used in snubber devices, resulting in advantages in the efficiency and performance of the snubber. As a result, the device is non-obvious and patentable. *See Trio Process Corp. v. L. Goldstein's Sons, Inc.*, 461 F.2d 66, 73 (3d Cir. 1972).

Patentability is not defeated because the claimed invention is embodied in a snubber which serves the same purpose as did previous snubbers. *Jamesbury Corp. v. Litton Industrial Products, Inc.*, 586 F.2d 917, 922 (2d Cir. 1978). Invention is exhibited in the cooperation of the elements of the patented device in a new and useful way to accomplish an improved result, enhancing its usefulness, *Id. See Williams Manufacturing Co., v. United Shoe Machinery Corp.*, 316 U.S. 364, 368, 62 S.Ct. 1179, 1181 (1942). As the former Court of Customs and Patent Appeals noted "patents are and should be granted to later inventors upon unobvious improvements. Indeed, encouragement of improvements on prior inventions is a major contribution of the patent system and the vast majority of patents are issued on improvements." *In re Hogan*, 559 F.2d 595, 606 (1977).

Plaintiffs have argued vigorously that the ineffectiveness of prior art devices, or even their unworkability, does not preclude their consideration as relevant prior art which renders the claimed invention obvious. While unworkable devices can be considered as part of the prior art, their practical ineffectiveness does provide an indication of the nonobviousness of a successful and workable device. *Ling-Temco-Vought, Inc. v. Kollsman Instrument Corp.*, 372 F.2d 263 (2d Cir. 1967); *Panduit Corp. v. Stahlin Bros. Fibre Works, Inc.*, 298 F.Supp. 435, 446 (W.D. Mich. 1969), *aff'd* 430 F.2d 221 (6th Cir. 1970), *cert. denied* 401 U.S. 939 (1971). *See Sutter Products Co. v. Pettibone Mulliken Corp.*, 428 F.2d 639, 646-47 (7th Cir. 1970); *Azoplate Corporation v.*

Silverlith, Inc., 367 F.Supp. 711, 721-22 (D. Del. 1973), *aff'd.* 506 F.2d 1050 (3d Cir. 1974), *cert. denied* 421 U.S. 914 (1975) ("the inherent inoperativeness of the printing plates as disclosed in the French patent and the explicit ineffectiveness of the diazo compounds of Zahn militate against a conclusion of obviousness"). Neither the Kiesel reference nor the Symington reference was ever reduced to practice, and serious doubts were expressed at trial as to whether either would have operated as an effective snubber. Both of these factors reduce the weight to be given to these references in determining obviousness.

It should also be noted that both the Kiesel and the Symington references were over thirty years old at the time of the claimed invention, and designed for cars of different configuration than those having the most severe "rock and roll" problems in the 1960's. This also reduces the degree to which the claimed invention can be considered obvious in view of these references. *See General Battery Corp. v. Gould, Inc.*, 545 F.Supp. 731, 752 (D. Del. 1982); *Wilden Pump and Engineering Co. v. Pressed & Welded Products Co.*, 199 U.S.P.Q. 390, 399 (N.D. Cal. 1978), *aff'd in part, rev'd in part on other grounds*, 655 F.2d 984 (9th Cir. 1981).

The determination that the subject matter of the patent in suit was not obvious in light of the relevant prior art is further buttressed by the fact that the prior art as it developed did not lead towards the spaced structure crucial to the claimed invention. During and even after the time of the claimed invention, devices were being developed, and patented, which rejected a spaced configuration. The opinion of most in the industry was, in fact, that a spaced configuration would not be effective in controlling "rock and roll". (N.T. 10.73, 77-78, 12.108-09). Significantly, the Holland Company, which designed and manufactured the prior art device on which plaintiff most heavily relies in arguing obviousness, developed and sold, in 1965 and 1966, a "D-5" vo-

lute snubber, which was designed to maintain constant contact with the bolster and side frame at all times, and did in fact do so. (N.T. 2.124-25, 4.20, 4.41). "When prior art teaches away from the methods used in a patent, it is relevant and persuasive evidence of the nonobviousness of the patented matter." *General Battery Corp. v. Gould, Inc.*, 545 F.Supp. at 753, *citing Tights, Inc. v. Acme-McCrary Corp.*, 541 F.2d at 1059 ("the fact that the defendants' prior art references lead away from [the patent in suit] and that even unusually skilled artisans in the field corroborated the negative teachings, is both relevant and persuasive as to the question of non-obviousness").

The ability of the Holland E-2 snubber arrangement to teach the spaced configuration of the patent in suit was also impaired by the fact that its operative embodiments did not maintain uniform spacing between the snubber and the bolster or side frame, and that, in fact, the Holland E-2 device was consistently in contact with these members. (N.T. 8.152-53, 10.105, 11.136-40, 12.20). One of plaintiff 's expert witnesses, in fact, was shown at trial to have submitted a patent application in 1971 in which he averred that "[h]eretofore damping type volute roll absorber[s] of the type shown in [the] patent have been designed with the intention that they maintain contact with the bolster throughout its entire range of movement." (2.147). This further undermines plaintiff 's contention that the subject matter of the patent in suit was obvious in light of the Holland arrangement.

Secondary Considerations As to Obviousness

The so-called "secondary considerations" with respect to obviousness — commercial success, long-felt but unsolved needs, failure of others, and so forth — are frequently considered by courts in arriving at a conclusion as to the obviousness or non-obviousness of a patent. These considerations are readily susceptible of judi-

cial treatment, and also help to prevent a court from slipping into the use of hindsight, and from improperly reading into the prior art the teachings of the invention in issue. *Graham v. John Deere,* 383 U.S. at 36, 86 S.Ct. at 703. While *Graham* itself indicated that these secondary considerations cannot alone be dispositive on the issue of obviousness, the considerations have considerable value as "real-life indicia" of validity. *Jacobson Brothers, Inc. vs. United States,* 184 U.S.P.Q. 181, 185 (Trial Div. 1974), *aff'd* 185 U.S.P.Q. 168 (Ct.Cl. 1975). The recently created Federal Circuit has stated that evidence as to secondary considerations, when properly presented, must always be considered in connection with the determination of obviousness. *In re Sernaker,* No. 82-579, slip.op. at 18 (Fed. Cir. February 28, 1983); *See Stevenson v. International Trade Commission,* 612 F.2d at 553; *Shackelton v. J. Kaufman Iron Works, Inc.,* 689 F.2d 334, 340 (2d Cir. 1982) (evidence favorable to the patentee on secondary considerations "strongly suggests that the combination created . . . was not obvious to others working in the same field").

The evidence at trial showed, without contradiction, that the snubber embodying the claimed invention was commercially successful and accepted by the industry as a desirable, useful and beneficial device. (N.T. 2.55, 2.179). Clearly, the inference that a device of such value would have appeared earlier, were it in fact obvious, is permissible in this case. *See In re Sernaker,* slip.op. at 21 (Davis, J., concurring) (unrebutted evidence of commercial success "decisive" in showing non-obviousness); *Black and Decker Manufacturing Company v. Sears, Roebuck & Co.,* 679 F.2d 1101, 1104 (4th Cir. 1982) (tremendous commercial success of patented device makes it "highly unlikely" that the device would have been obvious to a person of ordinary skill in the art when patented). Further, the testimony as to the advantage of the spaced structure with the biasing spring easily sup-

ports the inference that the claimed invention itself was responsibile for this success.

There was also ample evidence in the record to show that the claimed invention filled a long-felt need in the industry for an efficient, effective and relatively low-cost device capable of controlling the rock and roll movement of large freight cars. The industry had devoted considerable resources in the five years preceeding this invention in the attempt to solve the rock and roll problem. (N.T. 4.154, 10.78). Defendant's expert witness, Mr. Tack, who had been employed by one of the defendant's competitors, testified for example, that his employer had spent about a quarter of a million dollars per year over a five to six year period in research efforts to develop a device capable of controlling rock and roll, without developing a successful device. (N.T. 11.146-52). In light of the demonstrated failure of those in the field to obtain a solution to the problem, despite their knowledge of the problem and their strenuous attempts to solve it, it would be most difficult to conclude that the solution embodied in the claimed invention was obvious to those in the field at the time the invention was made. *See Reiner v. I. Leon Co.*, 285 F.2d 501, 504 (2d Cir. 1960), *cert. denied*, 366 U.S. 929 (1961). This invention was clearly not one of those which "do not cost much in time or other resources to make because existing products or processes embody most of the information that constitutes the invention", and which hence may not justify the grant of a patent monopoly. *Cf. Roberts v. Sears, Roebuck and Company*, 697 F.2d 796, 797 (7th Cir. 1983). Most of the devices which those in the industry developed to control the rock and roll problem, including those of the plaintiff's president, were eventually patented, and the amount of inventive activity within this industry could well have been spurred by the prospect of patent protection for the device that would ultimately prove successful in controlling the problem. A failure to uphold the validity of a patent obtained under

such circumstances could discourage the future commitment of resources to inventive activities.

Evidence that an infringing device was copied from the patented device may also provide evidence of the non-obviousness of the patented device. *Square Liner 360° v. Chisum*, 691 F.2d at 369. In the present case there was evidence supporting an inference that the infringing RDI "Control/Master" snubber had been copied from the patented device. The designer of the infringing device, plaintiff's president, had seen the patented snubber tested in June, 1969, and had the opportunity to observe how it was mounted. (N.T. 2.41). The infringing device was designed in a very short period of time, in late 1971. At about the same time, plaintiff came into possession of two drawings, showing in some detail the configuration of the patented device. [PX-55] (N.T. 11.99-100). Given the substantial amounts of time and money which defendant and other manufacturers had expended in an attempt to find a device which would control the rock and roll problem, the jury could have rejected the testimony of plaintiff's president that, having seen the defendant's snubber arrangement, he was able to design the infringing device in only three weeks without copying the patented device.

For all of the above reasons, it is this Court's finding that, had it been sitting in this case without a jury, we would have found that plaintiff failed to produce sufficient evidence to support its contention that the claimed invention would have been obvious to a person of ordinary skill in the relevant art at the time it was made, in light of the pertinent prior art. By the same token, the Court finds that the jury's determination that the plaintiff in this case failed to present sufficient evidence to show that the claimed invention was obvious is supported by the evidence. The jury was asked in interrogatory number 1:

> 1. Do you find that the plaintiff has proved by clear and convincing evidence that the United

States Patent No. 3,837,292 is invalid on the ground of obviousness?

The jury answered no. This Court must reject the motion of the plaintiff to set aside this finding as not supported by the weight of the evidence, and we also deny plaintiff's motion requesting that this Court find, as a matter of law, that the '292 patent is invalid on the ground of obviousness.

Best Mode

Plaintiff also contends that the patent in suit is invalid under 35 U.S.C. §112 because it does not disclose that lugs and pins are necessary to hold the snubber in place in the claimed location, although the inventor was aware of the need for such retaining devices. Section 112 provides in pertinent part:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

As the statute makes clear, the "best mode" which must be disclosed is the best mode known to the inventor. *Trio Process Corp. v. L. Goldstein's Sons*, 461 F.2d at 74. In the present case, the inventor testified that he considered the representation disclosed in the patent to be the "best mode" of carrying out his invention, and that the problem of retaining the snubber within the spring group was best dealt with by redesigning the spring. (N.T. 10.33-37). Crediting this testimony, as we are bound to do in light of the jury's finding, we find that it alone adequately supports the jury's conclusion that the patent was not invalid for failure to disclose the "best mode".

Even assuming that the use of retaining pins did constitute a superior means of practicing the invention, and that these means were known to the inventor, it does not follow that the failure to disclose these means in this case invalidates the patent. The adequacy of disclosure under §112 must be evaluated with respect to persons skilled in the art, and patent specifications will not be required to be so detailed as "production specifications." *Trio Process*, 461 F.2d at 74. The evidence in this case showed that both the problem of non-retention of the snubber and its solution were readily apparent to both designers and users of the device, and that neither required extensive experimentation or inventive effort. As the Supreme Court noted in construing a predecessor to §112:

> If a mechanical engineer invents an improvement on any of the appendages of a steam-engine, he is not obliged, in order to make himself understood, to describe the engine, nor the particular appendage to which the improvement refers, nor its mode of connection with the principal machine. These are already familiar to others skilled in that kind of machinery. He may begin at the point where his invention begins, and describe what he has made that is new, and what it replaces of the old. That which is common and well known is as if it were written out in the patent and delineated in the drawings.

Loom Co. v. Higgins, 105 U.S. 580, 585-86 (1882). There is no question in this case but that the use of pins and lugs to hold a snubber was well-known; a similar method appears to have been used to insure the retention of Holland E-2 snubbers when used with D-5 springs. (N.T. 2.112-13). Under such circumstances, failure to disclose this method of retention does not violate §112. *See Rengo Company, Ltd. v. Molins Machine Co.*, 657 F.2d 535, 549-50 (3d Cir. 1981), *cert. denied*,

454 U.S. 1055 (1982); *Anchor Plastics Company, Inc. v. Dynex Industrial Plastics Corp.*, 363 F.Supp. 582, 602 (D.N.J. 1973), *aff'd* 492 F.2d 1238 (3d Cir. 1974); *In re Sherwood*, 613 F.2d 809, 817, (C.C.P.A. 1980) *cert. denied*, 450 U.S. 994 (1981) ("there would seem to be no cogent reason to require disclosure of the menial tools known to all who practice this art.") Finally, we note that the former Court of Customs and Patent Appeals recently set forth a standard for testing the adequacy of disclosure under §112 which focuses, in effect, on the good faith of the inventor in making the disclosure. Under this standard, the evidence, in order to support a best mode rejection, must "tend to show that the *quality* of an applicant's best mode disclosure is so poor as to effectively result in concealment." *In re Sherwood*, 613 F.2d at 816 (emphasis in original). In this case there is no evidence that the retention problem or its solution "was intentionally left out of the patent disclosures". *See General Motors Corp. v. United States International Trade Commission*, 687 F.2d 476, 483 (C.C.P.A. 1982). As stated above, the jury appears to have credited the inventor's testimony that he intended to disclose the best mode, and even plaintiff's memorandum in support of its motion for judgment notwithstanding the verdict, at 26, characterizes defendant's alleged failure to disclose the best mode as the result of carelessness, not as the result of concealment. For all of these reasons, we find that the jury's answer of "no" to interrogatory No. 6, which reads:

> 6. Do you find that plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground that the patent application failed to set forth the best mode contemplated by the inventor for carrying out his invention?

was supported more than sufficiently by the evidence and that the patent in suit is not invalid under 35 U.S.C. §112 for failure to disclose the best mode.

Late Claiming, Failure to File A Supplementary Oath, and Intervening Rights

Plaintiff contends, now as at trial, that the filing on April 14, 1972, more than one year after sale of the patented device, of the claims which form the basis for plaintiff's infringement, invalidates the patent under the "late claiming" doctrine, as enunciated in *Muncie Gear Works, Inc. v. Outboard Marine & Mfg. Co.*, 315 U.S. 759, 62 S.Ct. 865 (1942) and *Kahn v. Dynamics Corp. of America*, 508 F.2d 939 (2d Cir. 1974), *cert. denied*, 421 U.S. 930 (1975). Plaintiff also contends that the added claims constituted new matter for which a supplemental oath or declaration was required under Rule 67 of the Rules of Practice in Patent Cases, 37 C.F.R. §1.67.[9] Since no supplemental oath was filed, plaintiffs contend, the patent is invalid. Finally, plaintiff contends that even if the patent is valid, plaintiff acquired intervening rights to continue the manufacture and sale of its infringing

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9. 37 C.F.R. §1.67 provides:

> When an applicant presents a claim for matter originally shown or described but not substantially embraced in the statement of invention or claim originally presented, he shall file a supplemental oath or declaration to the effect that the subject matter of the proposed amendment was part of his invention: That he does not know and does not believe that the same was ever known or used in the United States before his invention or discovery thereof, or patented or described in any printed publication in any country before his invention or discovery thereof, or more than one year before his application, or in public use or on sale in the United States for more than one year before the date of his application, that said invention has not been patented or made the subject of an inventor's certificate in any foreign country prior to the date of his application in this country on an application filed by himself or his legal representatives or assigns more than twelve months prior to this application in the Unites States, and has not been abandoned. Such supplemental oath or declaration should accompany and properly identify the proposed amendment, otherwise the proposed amendment may be refused consideration.

device. The jury found that the patent in suit was entitled to an effective filing date of August 22, 1969, and that the patent was not invalid under the "late claiming" doctrine. The jury also found that the patent was not invalid for failure to file a supplemental oath and that plaintiff did not acquire intervening rights to continue the manufacture and sale of the infringing device. The evidence presented at trial was more than sufficient to support these findings.

The claims in the patent in suit which plaintiff has infringed were not a part of the parent application of August 22, 1969 [PX-6] nor were they a part of the application for the patent in suit as originally filed on April 15, 1971 [PX-3]. They were added on April 14, 1972. The original claims, which were directed to the internal construction of the snubber, were transferred to a separate continuation-in-part application and later abandoned. The drawings and specifications of the patent as issued were contained in the parent application and transferred unchanged to the application for the patent in suit: only the claims were changed.

The *Kahn* case does support plaintiff's contention that the "late claiming doctrine" invalidates the claims of the patent in suit. Every other circuit court which has considered this issue, however, including the former Court of Customs and Patent Appeals, has adopted a contrary view of the import of *Muncie Gear*, holding that a "late claiming" argument, properly understood, raises only the question of whether the application, as of its effective filing date, provided adequate support in its *disclosure* for the later-submitted claims. *Westphal v. Fawzi*, 666 F.2d 575, 212 U.S.P.Q. 321 (C.C.P.A. 1981); *Faulkner v. Baldwin Piano & Organ Co.*, 561 F.2d 677, 195 U.S.P.Q. 410 (7th Cir. 1977), *cert. denied*, 435 U.S. 905, 98 S.Ct. 1450, 55 L.Ed. 2d 495 (1978); *Cardinal of Adrian, Inc. v. Peerless Wood Products, Inc.*, 515 F.2d 535, 185 U.S.P.Q. 712 (6th Cir. 1975); *Price v. Lake Sales Supply R. M., Inc.*, 510 F.2d 388, 183 U.S.P.Q. 519

(10th Cir. 1974); *Locklin v. Switzer Brothers, Inc.*, 299 F.2d 160, 131 U.S.P.Q. 294 (9th Cir. 1961), *cert. denied*, 369 U.S. 861, 82 S.Ct. 950, 8 L.Ed.2d 18 (1962); *Chicopee Manufacturing Corp. v. Kendall Co.*, 288 F.2d 719, 129 U.S.P.Q. 90 (4th Cir.), *cert. denied*, 368 U.S. 825, 82 S.Ct.44, 7 L.Ed.2d 29 (1961). *See Eli Lilly and Co. vs. Premo Pharmaceutical Laboratories*, 630 F.2d at 133-34.

We adopt this view. The issue of whether the claims as ultimately issued were identical to the claims of the parent application as originally filed is irrelevant under this view of the "late claiming" doctrine. The sole question is whether these claims were supported by an adequate disclosure in the original application. If so, they are entitled to the effective date of the prior application under 35 U.S.C. §120. *Triax Co. v. Hartman Metal Fabricators, Inc.*, 479 F.2d 951, 957 (2d Cir. 1973), *cert denied* 414 U.S. 1113 (1973).

Similarly, the question of whether the added claims constituted new matter for which a supplemental oath was required also depends solely on whether the claims are supported by the disclosure in the original application. *In re Rasmussen*, 650 F.2d 1212 (C.C.P.A. 1981). As the Court stated in *Rasmussen*, "Disclosure is that which is taught, not that which is claimed. An applicant is entitled to claims as broad as the prior art and his disclosure will allow." 650 F.2d at 1214. Finally, the fact that a claim "may be broader than the specific embodiment disclosed in a specification is in itself of no moment." 650 F.2d at 1215. The claims, not the drawings, define the scope on the patent, and every conceivable embodiment need not be disclosed in the drawings, *Maxon v. Maxon Construction Co.*, 395 F.2d 330, 334-35 (6th Cir. 1968); *see Continental Paper Bag Co. v. Eastern Paper Bag Co.*, 210 U.S. 405, 418-19 (1908).

We find that the evidence in this case shows that the disclosure in the parent application of August, 1969 was adequate to support the claims filed in April, 1972,

which became the claims of the patent as issued in August, 1974. First, the illustrations of the claimed invention, Figures 5-8 of the patent in suit, appeared in identical form as Figures 9-12 of the parent application. Figure 8 in particular clearly shows the spacing of the snubber from the side frame, the biasing spring, and its positioning, which form the basis of the claimed invention. As the cases cited above demonstrate, the fact that there is no drawing also showing a snubber spaced from the bolster does not serve to invalidate a claim based on such spacing. As plaintiff's expert Dr. Paul testified, given the disclosure of spacing from the side frame, the notion of spacing from the bolster is obvious. (N.T. 3.99-3.100). These illustrations thus provide support for the claims later added, and in addition, provide some evidence that these claims concern matter intended to be claimed in the original application. *See Wayne-Gossard Corp. v. Sondra, Inc.*, 434 F.Supp. 1340, 1355 (E.D. Pa. 1977) *aff'd* 579 F.2d 41 (3d Cir. 1978).

There is additional support for the later-added claims in the specifications of the parent application, which were carried forward unchanged into the application for the patent in suit and ultimately into the patent in suit itself. As stated in the specifications:

> When the snubber 132 is assembled with the body spring 170 it extends between the side frame bottom member 121 and the bolster bottom surface 168 as seen in FIG. 12. Also as seen in FIG. 12 the top surface 122 of the side frame bottom member 121 will, when the bolster and side frame are assembled but not supporting a car, be at a level indicated by the line A-A relative to the bolster 118. When a car body is placed on the truck of which this side frame 120 and bolster 118 are a part, the relative position of the top surface 122 of the side frame bottom member 121 will be at a position, relative to bolster 118, represented by the horizontal line B-B.

> This would be the unloaded car position and it is well illustrated that in this position there would be little or no action by the snubber 132 even if the car should bounce somewhat or rock slightly as it was being propelled over the rails. The next horizontal line upward from line B-B namely C-C represents the normal position of the top surface 122, relative to bolster 118, with a loaded car and it is to be seen that at this time the hitherto fully downwardly extended piston rod 154 will be forced upwardly into the cylinder 150 by the slight amount represented by the height of the line C-C above the downward-most positioning of the bottom member 164 in FIG 12. The top-most of the horizontal lines namely D-D represents the position of the top surface 122 relative to the bolster 118 when the spring group has been completely collapsed into solid condition.

[PX-6, circle page 22, line 17-23, line 14.][10] The parent application's specifications also include the following:

> The snubber 132 is now ready for normal operation very similar to that described for the spring group snubber of the above copending application or for the embodiment of FIGS 1 through 4 of this application. As hereinbefore mentioned, the limit of extension of the piston rod 154 precludes any action of the snubber 132 with a light car so that true operation of this device begins with a loaded car being moved along a railway and responding to the variations in track height in a well known manner.

[PX-6, circle pages 24, line 24-25, line 4.] These specifications are clearly adequate to support the claims of the patent in suit, which are the use of a biasing spring to maintain the snubber out of operative engagement with

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10. "Figure 12" as referred to in the disclosure of the parent application corresponds to Figure 8 of the patent in suit. This drawing is Figure 1 of this opinion.

the bolster or side frame when a car is unloaded, and to allow initiation of snubbing, in the normal case, only when the car is operating in a loaded condition. Moreover, the inventor testified that at the time the application for the patent in suit was filed, he was aware of other claims that could be made for the disclosed invention, but allowed the application to proceed on the assumption that these claims could be added later. (N.T. 11.15-11.27) The patent in suit is not, therefore, invalid for late claiming, or for failure to file a supplemental oath in support of the later-added claims. We should add that this conclusion is in accordance with the determination necessarily made by the Patent Office in allowing the new claims, and in not requiring the swearing of a supplemental oath. Such actions of the Patent Office are presumptively proper. *Baldwin-Lima Hamilton Corp. v. Tatnall Measuring Systems*, 169 F. Supp. at 21; *Eli Lilly and Co. v. Premo Pharmaceutical Laboratories*, 630 F.2d at 133-34.

Plaintiff has contended throughout these proceedings that even if the patent is valid, as we have determined that it is, the plaintiff acquired intervening rights to continue the manufacture and sale of its infringing snubber because defendant amended its claims after viewing plaintiff's device, and the claims as originally filed were not broad enough to cover plaintiff's infringing device. Testimony was presented by the defendant that, while the inventor had viewed plaintiff's device in operation before the amended claims were filed, the amendments had been conceived earlier, and were later filed in order to assure foreign patent protection. (N.T. 6.130, 6.144, 11.16) Plaintiffs, on the other hand presented contrary testimony in an attempt to show that the amendment was motivated by the defendant's viewing of plaintiff's device. The jury in finding that the doctrine of intervening rights did not apply credited the testimony offered by the defendant. Furthermore, there is a

question as to whether the doctrine of intervening rights is applicable to the circumstances presented in this case.

The doctrine of intervening rights in its statutory embodiment appears limited to reissue patents:

> No reissued patent shall abridge or affect the right of any person or his successors in business who made, purchased or used prior to the grant of a reissue anything patented by the reissued patent, to continue the use of, or to sell to others to be used or sold, the specific thing so made, purchased or used, unless the making, using or selling of such thing infringes a valid claim of the reissued patent which was in the original patent. The court before which such matter is in question may provide for the continued manufacture, use or sale of the thing made, purchased or used as specified, or for the manufacture, use or sale of which substantial preparation was made before the grant of the reissue, and it may also provide for the continued practice of any process patented by the reissue, practiced, or for the practice of which substantial preparation was made, prior to the grant of the reissue, to the extent and under such terms as the court deems equitable for the protection of investments made or business commenced before the grant of the reissue.

35. U.S.C. §252. Plaintiff contends, however, that the doctrine should be applied to original issue patents in circumstances where, as here, new claims have been added subsequent to initial application in order to cover an infringing device. Support for such a contention may be found in the case of *Kahn v. Dynamics Corp.*, discussed previously. *See* P. Rosenberg, Patent Law Fundamentals, §7.14 at 7-41. However, as we have heretofore stated, we have joined with those courts which have rejected the *Kahn* rationale. Since it is unquestionably proper for an inventor to add claims to an invention to add claims to an invention which are

adequately supported by the initial disclosure, and since we have found that the disclosure in the original application was sufficient to support the claims which plaintiff contends were added improperly, we do not find a basis for granting plaintiff intervening rights to make and sell the infringing device.[11]

Finally, we note that the doctrine of intervening rights, as §252 itself indicates, is an equitable doctrine, designed to allow a person who has in good faith manufactured an infringing device, and who has made a substantial investment in such production, to recover these profits. *See Wayne-Gossard Corp. v. Sondra, Inc.*, 434 F. Supp. at 1362-63. It is perhaps for this reason that plaintiff has contended that defendant's actions in filing the later claims were "improper and greedy." Plaintiff 's Reply Memorandum in support of its motion for Judgment NOV. at 50. As our discussion of the "late claiming" doctrine has made clear, there was nothing improper about defendant's addition of the claims. Furthermore, there is no evidence of substantial preparatory expenditure by the plaintiff which would justify granting it intervening rights in this case. Plaintiff 's president testified that he designed and built the infringing device in three weeks, using many components from a snubber already manufactured by the plaintiff. (N.T. 2.38-39) Plaintiff 's investment in the development of the product thus appears to have been insubstantial. Further, there is evidence that plaintiff made substantial profits on its sale of the device. *See Railroad Dynamics, Inc. v. A. Stucki Company*, No. 76-800, slip op. at 12 (E.D. Pa. Au-

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11. Plaintiffs also rely on the Third Circuit case of *Galion Iron Works & Mfg. Co. v. Beckwith Machine Co.*, 105 F.2d 941, 941 n.1 (1939) which states the proposition that enlargements of applications by later-added claims must be strictly construed and cannot interfere with inventors who have entered the field meanwhile. There is no indication in the *Galion* case, however, that the later-added claims to which the court referred were unsupported by the original disclosure.

gust 25, 1981). Finally, as discussed later, the plaintiff has been ordered as a result of this action to pay only a reasonable royalty to the defendant for its infringement of the patented invention. slip op. at 19. The Court believes such a royalty allows plaintiff to recover its production and development costs incurred in the manufacture and sale of the infringing device, and in fact to retain a profit from such sale. *Id.* For all of the above reasons, this Court must, therefore, deny plaintiff 's motion to set aside the finding of the jury that the plaintiff failed to prove by a preponderance of the evidence that plaintiff acquired intervening rights under the '292 patent.

The jury answered the following interrogatory in the negative:

> 9. Do you find that plaintiff has proved by a preponderance of the evidence that it has acquired intervening rights under United States Patent No. 3,387,292?

Sufficient evident supports this finding. Further, this Court must also deny plaintiff's motion to set aside the jury findings that the plaintiff failed to prove with sufficient evidence that the '292 patent was invalid for late claiming and failure to file a supplementary oath.

The jury answered the following interrogatories in the negative:

> 4. Do you find that plaintiff has proved by clear and convincing evidence that United States Patent No. 3,837,292 is invalid on the ground that the amendment to the patent application filed on April 18, 1972 required a supplemental oath or declaration in that the amendment contained matter originally shown or described but not substantially embraced in the statement of invention or claim originally presented in the application?
>
> 5. Do you find that the plaintiff has proved by clear and convincing evidence that United States Patent No. 3,387,292 is invalid for late claiming?

The jury also answered the following interrogatory affirmatively:

> 2. Do you find that defendant has proved by a preponderance of the evidence that the effective filing date of the invention claimed in United States Patent No. 3,837,292 is August 22, 1969?

These answers are supported by sufficient evidence, and by the law. For all of the above reasons, the plaintiff's motion for judgment notwithstanding the verdict and, in the alternative, for a new trial will be denied.

Damages Issues

Rule 60(a) motion

Following entry of this Court's judgment on August 26, 1981, the defendant filed a motion pursuant to Fed.R.Civ.P. 60(a) to correct a clerical mistake in the judgment. A stipulation of the parties had been entered into prior to entry of judgment, which was intended to make clear the number of car sets sold by the plaintiff during the relevant period. This stipulation was filed with the Court, but for some unexplained reason, was not entered into the record until after the Court had calculated the damages and entered judgment. The defendant therefore seeks to correct the figures stated at page 25 of this Court's August 25, 1981 Memorandum on damages to reflect the stipulated figures. Plaintiff agrees that the judgment should be corrected. A revised table with the correct figures, computed on the same basis as was the original table, is as follows:

	RDI Carsets Shipped	Royalty ($35.00/ Carset)	Royalty with Compound Interest at 6%
12/1/74 - 4/30/75	2,406.75	84,236	124,400
5/1/75 - 4/30/76	5,043.00	176,505	245,977
5/1/76 - 4/30/77	6,805.00	238,175	312,105
5/1/77 - 4/30/78	7,145.00	250,075	309,493
5/1/78 - 4/30/79	9,488.00	332,080	386,807
5/1/79 - 4/30/80	13,296.00	465,360	513,013
5/1/80 - 2/9/81	7,999.75	279,991	291,191
TOTAL	52,183.50	1,826,422	2,182,986

The plaintiff, however, objects on substantive grounds to the inclusion of 204.75 carsets shipped in December, 1974, and to the inclusion of 1,671 carsets shipped in 1977 and 1978 which represent "foreign sales". The plaintiff also objects to the inclusion of interest. We reject these objections for the reasons stated below in our discussion of plaintiff's motion to alter or amend the judgment. Plaintiff also requests a clarification of the manner in which the interest figures were calculated. The interest was calculated at an annually compounded 6% rate from January 1st of each year (approximately the midpoint of each fiscal year for which data was supplied) to August 26, 1981, the date judgment was entered. Decimals were rounded to the nearest hundredth. Each royalty figure was thus multiplied by 1.04 to represent the interest accruing from January 1, 1981 to August 26, 1981. (237 days ÷ 365 days = .65, .65 x .06 = .04) Each royalty figure was also multiplied by a factor of $(1.06)^n$, where "n" was equal to the number of years between January 1 of the fiscal year in which those royalties would have been paid and January 1, 1981. As an example, in fiscal 1978, the royalty payment we have deemed should have been paid was $250,075. Since three years elapsed between 1978 and 1981, "n" is equal to three. 1.06 raised to the third power is 1.19, which multiplied by 1.04 and 250,075 yields the result of $309,493. In accordance with the above calculations the judgment will be amended to enter judgment in favor of defendant and against plaintiff in the amount of $2,182,986.

Rule 59 motions

Both parties moved pursuant to Fed.R.Civ.P. 59 for an alteration or amendment of the amount of the judgment, contending that this Court made errors in arriving at the amount of the damages. The contentions raised in

these motions are identical to the arguments presented by the parties before the Court prior to the Court's initial determination of damages. Furthermore, it appears that all of them were considered by the Court in its Memorandum of August 25, 1981. Upon reconsideration, the Court concludes that neither party has presented any reason to change the basis for this Court's determination of damages, except the mathematical error brought about by the absence of the stipulation at the time damages were initially calculated. Therefore, the motions of both parties to alter or amend the judgment will be denied. The motion to correct the clerical error in the calculation of damages will be granted.

The plaintiff challenges this Court's award of prejudgment interest. Such an award is discretionary with the trial court. *Georgia-Pacific Corp. v. U.S. Plywood Champion Papers, Inc.*, 446 F.2d 295, 301 & n.7 (2d Cir.), *cert. denied*, 404 U.S. 870 (1971). The Court in its previous Memorandum explicitly found that "exceptional circumstances" justified an award of prejudgment interest. Memorandum of August 25, 1981 at 24. The plaintiff takes issue with our finding, contending that its failure to enter into a license agreement with the defendant cannot support such a finding, and that it is contrary to public policy to penalize challenges to invalid patents. As the Third Circuit noted soon after this Court's Memorandum as to damages was filed, however, sound public policy dictates an award of prejudgment interest as of the date of infringement, since failure to award such interest "rewards infringers where those infringers have refused to accept or negotiate a royalty, and discourages the amicable licensing of patents." *Devex Corp. v. General Motors Corp.*, 667 F.2d 347, 364 (3d Cir. 1981), *cert. granted*, 102 S.Ct. 2267 (1982), *cert. denied*, 102

S.Ct. 2270 (1982).[12] *See Pitcairn v. United States*, 547 F.2d 1105, 1120-24 (Ct. Cl. 1976), *cert. denied*, 434 U.S. 1051 (1978). Moreover, the Court's finding was not simply that the plaintiff had refused the offer, but that it did not respond to it and proceeded to sell its infringing snubber in substantial quantities. Memorandum at 24. Finally, the Court found, in its discretion, that the award of prejudgment interest was necessary in this case to insure full compensation to the defendant for plaintiff's acts of infringement. *Id.* The Court finds that the 6% rate of interest is most reasonable and warranted by the facts of this case.

Plaintiff also contends that the royalty set by the Court was unreasonably high. The Court's Memorandum of August 25, 1981 considered each of the fifteen factors set out in the lower court opinion in *Georgia-Pacific Corp. v. United States Plywood Corp.*, 318 F. Supp. at 1120, and we adhere to our earlier determinations with respect to these factors. Although plaintiff points out that in our Memorandum of August 25, 1981 this Court referred to a royalty arrangement offered by defendant to plaintiff as an "exclusive" arrangement, there is no question that our determination that a thirty-five dollar per carset royalty rate was reasonable was not based on our inadvertent reference to the license as "exclusive". Rather, it was based on all of the factors considered by the Court, including the exact language of the offer itself. We note that our ultimate finding, which

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12. The Supreme Court's grant of certiorari in *Devex* was limited solely to the question of whether 35 U.S.C. §284 *requires* an award of prejudgment interest on unliquidated reasonable royalty patent infringement damages where there has been *no* finding of bad faith or other exceptional circumstances, but rather a finding that the infringer acted in good faith. 50 U.S.L.W. 3870 (April 27, 1982). Even should the Supreme Court answer this question in the negative, we do not believe its holding will affect the power of a Court, in its discretion, to award prejudgment interest on the basis of findings such as we have made here.

placed reliance on the royalty arrangement offered by Stucki to RDI, is supported by two federal appellate courts which have considered this issue and have explicitly approved royalty rates in the amount of industry-wide license offers made by the patentee. *Devex Corp. v. General Motors Corp.*, 667 F.2d at 361-62.[13] *Pitcairn v. United States*, 547 F.2d at 1116-17. We thus find no basis to change our original determination as to the royalty rate.

The plaintiff further contends, relying on *Deepsouth Packing Co. v. Laitran Corp.*, 404 U.S. 518, 92 S.Ct. 1700 (1972) that its foreign sales should be excluded from the damages calculations because these snubbers were not placed in truck assemblies in this country, and therefore there was no infringement within this country. As the *Deepsouth* opinion states, however, infringement occurs under 35 U.S.C. §271 when a person " 'makes', 'uses', *or* 'sells' the patented product within the bounds of this country." 406 U.S. at 527 (emphasis added). Plaintiff's contention is therefore untenable, since it is not only the use of a patented device which constitutes infringement under §271, but manufacture and sale as well. Therefore, although the snubbers at issue were shipped for use outside the United States, since they were manufactured and sold within the United States, they should not be excluded from the damages calculation.

Finally, plaintiff contends that damages should not be assessed for December, 1974, because defendant has not proved that defendant marked its patented device to give notice of the issuance of the patent, or that defendant otherwise gave plaintiff actual notice of the patent's issuance, prior to January 1, 1975. The Court found in its Memorandum of August 25, 1981, at 21, that notice

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13. The Supreme Court denied certiorari on this question in the *Devex* case. *See* note 12, *supra;* 50 U.S.L.W. 3870 (April 27, 1982).

had been given as of December 1, 1974. The evidence, including the testimony of the inventor that marked snubbers were sold soon after marked castings were received in November, 1974, supports this finding.

For the reasons heretofore discussed, plaintiff's motion to alter or amend the judgment will be denied.

The defendant has also challenged some of this Court's findings. Defendant claims that the Court erred in finding that defendant did not carry its burden of proving lost profits. Memorandum of August 25, 1981, at 9. Defendant, however, has failed to convince the Court that it should change the findings set forth in the Court's Memorandum of August 25, 1981, at 7-9, which provided ample support for the finding that defendant had not carried its burden of proving lost profits. There was no evidence in the record upon which this Court could base a finding as to the percentage of the plaintiff's infringing sales which would have been made by the defendant in the absence of infringement. The defendant also asserts that the Court's damage award to Stucki should give Stucki all of plaintiff's profits from the sale of plaintiff's infringing snubber, contending that plaintiff has been "unjustly enriched" in this amount. Such as award cannot be made, however, under 35 U.S.C. §284, as amended in 1946. The Supreme Court has stated:

> In patent nomenclature what the infringer makes is 'profits'; what the owner of the patent loses by such infringement is 'damages'. . . . By the 1946 amendment . . . the statute [the present 35 U.S.C. §284] was changed to approximately its present form, whereby only "damages" are recoverable. The purpose of the change was precisely to eliminate the recovery of profits as such and allow recovery of damages only. . . .
>
> But the present statutory rule is that only "damages" may be recovered. These have been defined

> by this Court as "compensation for the pecuniary loss he [the patentee] has suffered from the infringement, without regard to the question whether the defendant has gained or lost by his unlawful acts."

Aro Manufacturing Co. v. Convertible Top Co., 377 U.S. 476, 506, 507, 84 S.Ct. 1526, 1542 (1964) (citations and footnotes omitted). Defendant's claim for disgorgement of RDI's "unjust enrichment" must, on the authority of *Aro*, be rejected.

For all of the above reasons, defendant's motion to alter or amend the judgment will therefore be denied.

An appropriate Order follows.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

Civil Action
No. 76-800

RAILROAD DYNAMICS, INC.

v.

A. STUCKI COMPANY

ORDER

AND NOW, this 25th day of March, 1983, upon consideration of plaintiff's motion pursuant to Fed.R.Civ.P. 50(b) for judgment notwithstanding the verdict, in the alternative, for a new trial, defendant's motion pursuant to Fed.R. Civ.P. 60(a) to correct a clerical mistake in the judgment, defendant's motion pursuant to Fed.R.Civ.P. 59(e) to alter or amend the judgment, and plaintiff's motion pursuant to Fed.R.Civ.P. 59(e) to amend the judgment, and the responses thereto, for the reasons stated in this Court's Memorandum of March 25, 1983,

IT IS HEREBY ORDERED:

1. Plaintiff Railroad Dynamics, Inc.'s motion for judgment notwithstanding the verdict, or, in the alternative, for a new trial, is DENIED.

2. Plaintiff Railroad Dynamics, Inc.'s motion to amend the judgment of this Court entered August 26, 1981 is DENIED.

3. Defendant A. Stucki Co.'s motion to alter or amend the judgment of this Court entered on August 26, 1981 is DENIED.

4. Defendant A. Stucki Co.'s motion to correct a clerical mistake in the judgment of this Court entered on August 26, 1981 is GRANTED, and this Court's judg-

ment entered in the above entitled action on August 26, 1981 is hereby corrected, *nunc pro tunc*, to enter judgment in favor of defendant A. Stucki Co. and against plaintiff Railroad Dynamics, Inc. in the amount of $2,182,986.00.

IT IS FURTHER ORDERED that pursuant to the above correction, the judgment order entered by this Court on August 26, 1981 hereby is corrected *nunc pro tunc*, to read as follows:

> Judgment is ENTERED in favor of defendant A. Stucki Company and against plaintiff Railroad Dynamics, Inc. in the amount of $2,182,986.00.

RAYMOND J. BRODERICK, *J.*

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 83-951/
83-961

RAILROAD DYNAMICS, INC.,
Appellant/Cross-Appellee,

v.

A. STUCKI COMPANY,
Appellee/Cross-Appellant.
Dist. Ct. No. 76-800

Judgment

ON APPEAL FROM THE US DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

This CAUSE having been heard and considered, it is ORDERED and ADJUDGED: AFFIRMED.

DATED: January 25, 1984
Petition for rehearing Denied, February 14, 1984, Suggestion for rehearing in banc, Declined, February 14, 1984.

ENTERED BY ORDER
OF THE COURT
George E. Hutchinson, Clerk

Clerk

ISSUED AS A MANDATE: February 14, 1984

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

No. 83-951/
83-961

RAILROAD DYNAMICS, INC.,
Appellant/Cross-Appellee,

v.

A. STUCKI COMPANY,
Appellee/Cross-Appellant.

ORDER

A petition for rehearing and a suggestion for rehearing in banc having been filed in this case,

UPON CONSIDERATION THEREOF, it is Ordered by the court that the petition for rehearing be, and the same is hereby Denied.

The suggestion for rehearing in banc is declined. The Mandate shall issue forthwith.

FOR THE COURT

George E. Hutchinson, *Clerk*

February 14, 1984

cc: Alan S. Nadel
Raymond G. Hasley

28 U.S.C. §1295. Jurisdiction of the United States Court of Appeals for the Federal Circuit

(a) The United States Court of Appeals for the Federal Circuit shall have exclusive jurisdiction—

(1) of an appeal from a final decision of a district court of the United States, the United States District Court for the District of the Canal Zone, the District Court of Guam, the District Court of the Virgin Islands, or the District Court for the Northern Mariana Islands, if the jurisdiction of that court was based, in whole or in part, on section 1338 of this title, except that a case involving a claim arising under any Act of Congress relating to copyrights or trademarks and no other claims under Section 1338(a) shall be governed by sections 1291, 1292, and 1294 of this title;

* * *

28 U.S.C. §1338. Patents, plant variety protection, copyrights, trade-marks, and unfair competition

(a) The district courts shall have original jurisdiction of any civil action arising under any Act of Congress relating to patents, plant variety protection, copyrights and trade-marks. Such jurisdiction shall be exclusive of the courts of the states in patent, plant variety protection and copyright cases.

* * *

35 U.S.C. §103. Conditions for patentability; non-obvious subject matter

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

35 U.S.C. §112. Specification

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

* * *

35 U.S.C. §282. Presumption of validity; defenses

A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

* * *

Rule 49. Special Verdicts and Interrogatories

(a) Special Verdicts. The court may require a jury to return only a special verdict in the form of a special written finding upon each issue of fact. In that event the court may submit to the jury written questions susceptible of categorical or other brief answer or may submit written forms of the several special findings which might properly be made under the pleadings and evidence; or it may use such other method of submitting the issues and requiring the written findings thereon as it deems most appropriate. The court shall give to the jury such explanation and instruction concerning the matter thus submitted as may be necessary to enable the jury to make its findings upon each issue. If in so doing the court omits any issue of fact raised by the pleadings or by the evidence, each party waives his right to a trial by jury of the issue so omitted unless before the jury re-

tires he demands its submission to the jury. As to an issue omitted without such demand the court may make a finding; or, if it fails to do so, it shall be deemed to have made a finding in accord with the judgment on the special verdict.

(b) General Verdict Accompanied by Answer to Interrogatories. The court may submit to the jury, together with appropriate forms for a general verdict, written interrogatories upon one or more issues of fact the decision of which is necessary to a verdict. The court shall give such explanation or instruction as may be necessary to enable the jury both to make answers to the interrogatories and to render a general verdict, and the court shall direct the jury both to make written answers and to render a general verdict. When the general verdict and the answers are harmonious, the appropriate judgment upon the verdict and answers shall be entered pursuant to Rule 58. When the answers are consistent with each other but one or more is inconsistent with the general verdict, judgment may be entered pursuant to Rule 58 in accordance with the answers, notwithstanding the general verdict, or the court may return the jury for further consideration of its answers and verdict or may order a new trial. When the answers are inconsistent with each other and one or more is likewise inconsistent with the general verdict, judgment shall not be entered, but the court shall return the jury for further consideration of its answers and verdict or shall order a new trial.

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

Civil Action No. 76-800
Judge Broderick

RAILROAD DYNAMICS, INC.,

Plaintiff,

v.

A. STUCKI COMPANY,

Defendant.

PLAINTIFF'S REVISED PROPOSED SPECIAL VERDICT QUESTIONS

1. Is the art or technology pertaining to the subject matter claimed in Stucki's patent the art of suspension systems for truck assemblies for railway cars?

Yes_____
No_____

2. Is an engineer who has had several years experience in the railroad industry a person of ordinary skill in the art pertaining to the subject matter claimed in Stucki's patent?

Yes_____
No_____

3. Did the state of the art pertaining to the subject matter claimed in Stucki's patent prior to the alleged invention of the claimed subject matter include biasing a friction snubber in the spring group of a railway truck assembly away from the bolster by biasing means between the bolster and the snubber, such that when the truck assembly is normally operating in an unloaded condition, the snubber is out of operative engagement with the bolster, but when the truck assembly is normally operating in a loaded condition, the bias of the

biasing means is partially overcome and the snubber is in operative snubbing engagement with both the bolster and with the side frame?

Yes_____
No_____

4. Does the Holland volute spring group snubber arrangement illustrated in Plaintiff's Exhibit 78 include a snubber in the spring group of a railway truck assembly biased by a snubber biasing spring such that it is biased out of contact with the bolster in an unloaded car and does not normally snub an unloaded car, but is in contact with both the bolster and side frame if the car is loaded so it snubs a loaded car?

Yes_____
No_____

5. Do Kiesel, Jr. U.S. Patent 1,983,088 (Plaintiff's Exhibit 27, colored drawings Plaintiff's exhibit 79) and Symington U.S. Patent 1,989,433 (Plaintiff's Exhibit 60, colored drawings Plaintiff's Exhibit 80) disclose the use of a snubber in a spring group in substantially the same orientation claimed in Stucki's patent?

Yes_____
No_____

6. Do *Railway Age*, Volume 118, No. 9, March 3, 1945, page 421 (Plaintiff's Exhibits 68 and 82) and Sproul U.S. Patent 2,099,240 (Plaintiff's Exhibit 61, colored drawings Plaintiff's Exhibit 81) disclose a hydraulic snubber which replaces a spring in a spring group of a railway truck assembly?

Yes_____
No_____

7. Is the only difference between the subject matter claimed in Stucki's patent and the prior art that a hydraulic snubber, also known in the prior art, is used in the spring group of a railway truck assembly, rather than a friction snubber?

Yes_____
No_____

8. Is the prior art relied upon by RDI more pertinent to the subject matter claimed in Stucki's patent than the prior art relied upon by the Patent Examiner who examined the application for Stucki's patent?

Yes_____

No_____

* * *